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An Address
ON THE
PATHOLOGY OF SYPHILIS, ESPECIALLY IN ITS BEARING ON TREATMENT.

Delivered before the Medical Society of London on Jan. 12th, 1914,

BY W. D'ESTE EMERY, M.D., B.Sc. LOND.,
DIRECTOR OF THE LABORATORIES AND LECTURER ON PATHOLOGY AND BACTERIOLOGY, KING'S COLLEGE HOSPITAL, LONDON.

MR. PRESIDENT AND GENTLEMEN,—Syphilis is perhaps of all others the most interesting disease at the present time. For centuries past it has been, from its commonness and from its serious nature, a disease of the utmost importance; but it has been a mystery, and a mystery which the passage of time has done but little to elucidate. Indeed, if we compare our knowledge of syphilis of ten years ago with that of the most educated physicians of a period 50 years after the discovery of the Americas and the subsequent spread of the disease over the civilised world, we can find comparatively little that has been added of fundamental importance. The clinical manifestations of the disease had been more carefully studied, and some knowledge—useless and not altogether accurate—had been gained as to the morbid anatomy of its lesions; the use of mercury was perhaps more scientific, and another remedy, iodide of potassium, had been introduced—the latter perhaps not an unmixed benefit; and, most important of all, the syphilitic nature of two diseases of enormous importance, themselves of comparatively recent discovery, had been firmly established. I allude, of course, to tabes and general paralysis.

ADVANCES IN KNOWLEDGE OF SYPHILIS.

What a change at the present day! Thanks to the researches of Schaudinn, Metchnikoff, Wassermann, Ehrlich, and others, we have now as good a knowledge of syphilis as of any other disease, except perhaps malaria.

Let me recapitulate briefly what I mean by saying we understand an infective disease. I mean that we know the organism which causes it, so that we can recognise it with certainty, and make use of its demonstration in diagnosis. Further, we must know how this parasite behaves outside the body, its vitality, and its intermediate hosts, if any; we must know how it gains access to the body, and what causes facilitate its invasion; when arrived in the body, we must know the regions it attacks, and the methods by which it is disseminated therein, should such dissemination occur; what toxins it produces, and how they injure the tissues and, still more important, alter the normal physiological processes, and thus give rise to the symptoms of the disease. We must also understand those elaborate and complicated processes which all micro-organisms set up in the living body, and which we refer to as the reactions of immunity—that is to say, we must understand how the body defends itself against the invaders, and how natural recovery, should it occur, is effected. We must have a test which will enable us to diagnose the disease early, or when clinical symptoms are ambiguous. We must have a cure, which if properly applied is a practically certain one; and, lastly, we must have some means of telling when a patient is actually cured and the disease is dead and not merely sleeping.

Now I do not say that there are no gaps, and those of great importance, in our knowledge of syphilis, but I think I can say that, whereas ten years ago our knowledge was almost all gaps, now the unexplored fields loom very small beside the territory which has been fully surveyed and is definitely known. I think we may say with Shakespeare, "And is not this an honourable prize, a gallant spoil?" and reply with him, "It is a conquest for a king to boast of."

I have attempted to-night, very ambitiously, to outline to you our knowledge of syphilis regarded from the point of view of the pathologist, discussing more especially the bearings of these views on the treatment of the disease. This is a large subject, and with your permission I will plunge at once into the heart of the matter.

THE TREPONEMA PALLIDUM.

As regards the cause of syphilis, there is at the present time no doubt that the spirochæta pallida or treponema pallidum of Schaudinn is the actual *materies morbi*. It fulfils all Koch's postulates; it is present (though sometimes in scanty numbers and not easy to find) in all stages of the disease; it can be cultivated outside the body and the cultures kept going for many generations, so that we can be certain that no trace of the original material is present; and these cultures will convey the infection to the lower animals and in all probability to man. It has, as far as we know, no independent existence outside the body, and under such conditions rapidly dies; infection, therefore, is almost always direct, and the conveyance of the virus by fomites only possible for short periods of time. It has no intermediate host and is, under natural conditions, an exciter of disease in Homo sapiens only. I do not think I need take up your time by discussing its morphology, which is now so well known. And as regards its life-history, I need only say that I for one am unconvinced by those who claim to have demonstrated a complicated life-cycle. The fact that the organism exists as a spirochæte in lesions in all phases of the disease, from the primary chancre and even from an earlier stage (Levaditi and Yamanouchi), to the last stage of tabes and general paralysis, that it can be cultivated for many generations, during which (except for a few occasional spherical bodies which are probably involution forms) it remains a spirochæte, shows that there is no necessity for assuming any other form in its life-history. However, the question is entirely one for demonstration, and at present we must be content with regarding the alleged life-cycle as non-proven. I need hardly remind you that some still regard the organism as a bacterium, and that if this is the case the existence of a complicated life-history is impossible.

THE EARLY STAGES OF INFECTION.

Let us now trace out, as well as we can, what takes place when a person is infected with syphilis. There is, to begin with, a period of three or four weeks during which there are no obvious effects whatever, but in which the spirochætes are known to be multiplying in the epithelial and subepithelial tissues, and causing in them a very slight degree of the histological changes characteristic of syphilis. After a time the picture changes suddenly; there is sudden outburst of activity in the parasites; they multiply rapidly and liberate their toxins, which

causes a rapid multiplication in the tissue cells, especially the endothelial cells, in their neighbourhood, and a great number of lymphocytes are attracted into the area, the whole forming the lesion which is so familiar to us as the Hunterian sore or hard chancre.

Now what is the meaning of this remarkable series of events? Why this prolonged incubation period followed by a sudden development of appearances suggesting a powerful toxic action on the tissues? Mott suggests that the multiplication is not rapid at first owing to the difficulty with which the spirochætes obtain their pabulum, but that when the tissue cells multiply and the lymphocytes make their appearances these new cells supply them with the food that they need, and they then pullulate with great rapidity. This view seems to me entirely inadmissible; by all analogy with the other infective diseases, and by all that we know concerning the cellular side of immunity, these cells, which constitute granuloma tissue, are to be regarded as a defensive reaction on the part of the host, and we must look upon them as designed to check the growth of the invaders, rather than to stimulate it. It appears to me certain that the appearance of the chancre is the first indication of an alteration of the state of immunity of the host towards the spirochætes and their toxins, an alteration which, as I shall attempt to show, occurs with numerous alterations and oscillations throughout the whole history of the disease.

We know that in the healthy person the tissues are immune to the syphilitic endotoxin. This is clear from the researches of Noguchi and others on the luetin reaction. Luetin is an emulsion of the killed bodies of the spirochætes obtained from pure cultures. It is employed as a test for syphilis in much the same way as tuberculin (with which it is closely analogous) is employed in the familiar von Pirquet's reaction, except that it is injected intradermically instead of being applied to a scarified surface of the skin. When so applied to a normal person it produces no effect, but in a patient infected with syphilis, especially in the later stages, it causes a papular or pustular lesion, somewhat resembling in appearance, as well as in structure, a small gumma. This experiment shows us that the tissues of the normal skin are naturally immune to the syphilitic toxin, and that it is only when they become hypersensitive—or shall we say anaphylactic?—that they react to its influence by the formation of a granuloma.

THE PRODUCTION OF HYPERSENSITIVENESS.

I interpret, therefore, the early stages of syphilis as follows. A number of spirochætes gain access to the endothelial and subendothelial tissues, where they are sheltered from the blood and are able to grow undisturbed, though not very well, the supply of nourishment being limited. I say they are sheltered from the blood, as this is necessary, since the blood has at this stage—i.e., in a normal person—powerful spirillicide properties, as is shown by the fact that the higher apes are quite immune to inoculation of the spirochætes into the blood stream. After a time some of the spirochætes will die, and their constituent proteins will be set free. We have now the conditions necessary for the production of hypersensitiveness—that is, we have the presence of a minute amount of a foreign protein or antigen in contact with the healthy tissues. Hypersensitiveness is produced, and is at first most marked in, or is entirely confined to, the neighbourhood of the colony of spirochætes in the tissues, the site of the future chancre, but after a time some of the antigen or endotoxin, call it what you like, will diffuse into the blood stream and lead to the production of hypersensitiveness in all parts of the body. The result of these changes will be that the colony of spirochætes will come to be surrounded by hypersensitive tissues, which will no longer tolerate their presence with indifference, as will the normal tissues, and a subacute inflammatory reaction will be produced.

But why do the spirochætes at this time commence to proliferate with increased rapidity? This is not the place for a discussion on the various theories which have been promulgated to explain the mechanism of anaphylaxis, but I think there is good reason for believing it is due to the formation of antibodies, some of which remain attached to the cells (sessile receptors), whilst some circulate in the blood. When these antibodies meet with the protein molecules in the spirochætes of the same chemical composition as those which gave rise to them (their antigens) they combine, and in doing so attract to themselves the complement, the second necessary defensive substance, which is in the surrounding fluids.

Let us imagine this process occurring in the neighbourhood of a group of spirochætes in what will be a chancre. The antibodies reach the organisms, combine with them, and many, but not all, are destroyed and dissolved. Two effects will follow: a large amount of dissolved and perhaps partially digested substance will be set free and act as a toxin on the surrounding cells, causing them to proliferate and attracting lymphocytes into the vicinity; and secondly, all the defensive substances in the neighbourhood being removed by this action, the remaining spirochætes will be allowed to proliferate more vigorously than before. The two effects will be, therefore, a rapid histological effect culminating in the formation of a chancre, and a rapid pullulation of the spirochætes in the tissues.

INVASION OF THE BLOOD BY SPIROCHÆTES.

But about this time another and much more important thing happens. The spirochætes begin to generalise themselves in the blood stream. This does not take place (as far as we know) in the earlier stages, and, as I have already stated, experiments on animals show us that the blood is powerfully resistant to the organism, and must indeed have spirillicidal properties. The internal organs and tissues are also immune to the spirochæte; infective material injected into the tissues or peritoneal cavity causes no infection and is quickly destroyed; and if the testicle is susceptible to inoculation we must remember that it is composed mainly of epithelial cells.

It is obvious, therefore, that some far-reaching change occurs at or about this time by which the blood loses its spirillicidal power, and this I believe we may correlate with the loss of the bactericidal substances, especially perhaps of the complement, which occurs as a result of the combination of the antibodies in the blood with the spirochætes. This effect would be entirely analogous with the negative phase which we know to occur after a large injection of tuberculin or other vaccine, and which is thought by some to play a part of such great importance in vaccine therapy. I must remind you that several observers have shown that after an injection of tuberculin tubercle bacilli may frequently be detected in the blood, though they are absent at other times; and I take it that the invasion of the blood by the spirochætes is caused in a

manner precisely similar. There is a large destruction of the spirochætes in the tissues of the chancre by antibody and complement, a consequent negative phase, a temporary disappearance of the spirillicidal powers of the blood, and a consequent spirillum septicæmia.

Such a septicæmia occurs only in the early stages of the disease, especially in the late primary and early secondary stages, and very few observers who have sought for the organisms in the blood, either by microscopic examination, by cultures, or by animal inoculation, have been able to find it after this period except in a very small percentage of cases. I believe that future research will show that generalisation of the organisms throughout the body is extremely rare, except in the late primary and early secondary stages; that spirochætes gain access at these periods to all parts of the body which will subsequently be the seat of lesions (with some possible exceptions to be discussed subsequently); and that they lie there latent for many years until obvious causes such as traumatism, or subtler ones dependent on alterations on the immunity or nutrition of the tissues, awake them into activity. Be this as it may, there is no doubt that spirochætes do generalise constantly at this stage of the disease, and but rarely at later periods.

PROCESSES IN SECONDARY PERIOD.

The secondary period is characterised mainly by three phenomena—the rash, the affections of the mucous surfaces, and the early lesions in the meninges; these latter we may regard as being in all respects analogous with the rash itself. Their causation has been put down to embolism of the spirochætes in the capillaries, but I think we can hardly regard this as being sufficient in itself to account for all the phenomena.

Again there must be hypersensitiveness of the tissues, but hypersensitiveness of a sort slightly different from that which led to the production of the chancre. Perhaps it is only a difference of degree; there is a greater supply of antibodies in the circulating blood, and therefore a greater solution of spirochætes, which, as we know, are present in very large numbers at this stage, so that a large amount of endotoxin or of the dissolved products of the spirochætes is set free at this stage. Perhaps, also, there is a commencing sensitisation of the tissues of the body generally and not merely those in the neighbourhood of the chancre; all the cells are now being acted on by the dissolved spirochæte protein, and not merely those in the neighbourhood of the colonies. Thus all the cells in the body will be altered in their immunity reactions and will begin to form antibodies, some of which will pass into the blood, whilst others will remain as sessile receptors and render the cells hypersensitive. In any case, the secondary roseola and other secondary symptoms suggest a reaction of hypersensitiveness, and I believe we are justified in attributing them either to a sudden rise in the sensitiveness of the tissues with which the spirochætes are already in contact or to a sudden shower of spirochætes becoming impacted in hypersensitive tissues.

The fever which so frequently occurs about this time is readily explicable when we remember that there are large numbers of spirochætes and large amounts of antibodies present in the body at this time. The fever we may safely attribute to the ultimate products of the action of the one on the other.

I must emphasise the fact that during the secondary stage of syphilis every drop of blood and every cell of the body becomes profoundly altered. There is no necessary morphological alteration, nothing we can see under the microscope, but nevertheless the metabolism of the patient, the hidden processes of nutrition and of cell-life generally, are entirely different from what they are in a non-syphilitic person. Let me recapitulate briefly some of the differences from the normal condition which have arisen. There is, to begin with, and most important, a new substance,[1] the Wassermann substance, present in the blood; there are antibodies, such as agglutinins; there is an increased amount of globulin; the red corpuscles are altered so that they are more readily attacked by destructive agencies than is the case in health, and this is, in part at least, the explanation of the anæmia which is so common in syphilis and so difficult to treat by remedies which are efficacious in other forms of anæmia; there is in some stages of syphilis an alteration in the total numbers of the leucocytes present and of the relative proportions of the different varieties; there is an increase in the amount of amino-nitrogen in the blood, as has been recently shown by Kaplan; and there is an increase in the amount of extractives in proportion to the urea in the urine. The list might be extended considerably, but I must be content with adding another fact of great importance: the patient's resistance or immunity to diseases other than syphilis is greatly diminished, so that he falls a ready victim to intercurrent bacterial or other infections.

THE WASSERMANN REACTION.

I will now interrupt my description of the processes which occur in the various stages of the disease to consider some phenomena of great importance. In the first place, I will deal with the Wassermann reaction as briefly as the important nature of the question will permit. I do not propose to go into technical details, but to discuss the question of its production and its import.

The discoveries of Levaditi and others have shown us beyond a doubt that it is not a true example of the Bordet reaction—that is, it is not an absorption of complement due to a combination of antibody and antigen. At the present time another proof of this fact can be obtained, for by using pure cultures of the spirochæte Noguchi was able to replace the lipoid emulsion used nowadays in the Wassermann reaction by a true syphilitic antigen; and when this was done he found that sera did not react in the same way to the two substances. One serum might, for example, give a positive reaction with the lipoid emulsion, and a negative one with the true antigen, and *vice versâ*.

We are led to assume that the Wassermann reaction is due to the presence of some substance which is not present in normal blood, and which is not an antibody. What is this substance? We cannot answer this question with certainty at the present moment, but I do not think this is of great importance for our present purposes; the important thing is to notice that it is in all probability not a defensive substance, but one set free in the degeneration of cells. It is not an evidence of immunity to the disease, but a sign that histological changes,

[1] I do not discuss the possibility that the reaction may be due to an increase of a substance occurring normally in small amounts.

and especially cell degeneration, are present. According to Noguchi the reaction obtained with his true antigen may be taken as a fair proof of the defensive reaction, whilst the ordinary Wassermann reaction is some measure of the extent of the syphilitic processes. It is not, however, exactly quantitative, since a patient in whom there is a strong Wassermann reaction may show comparatively slight histological changes in the tissues, and *vice versâ*; but I think that in general terms the potency of the Wassermann reaction in any particular patient is roughly proportional to the extent of his lesions, diminishing as they are cured and becoming more marked as they increase. You will notice that the Wassermann reaction usually appears about the middle or end of the primary stage—that is, about the time that the tissue cells and lymphocytes have had time to collect round the colony of organisms and to undergo degeneration, and that it becomes much stronger during the secondary period, when the histological changes are so much more widespread.

A very difficult question arises in regard to the occasional disappearance of the Wassermann reaction in later tertiary syphilis in spite of active syphilitic lesions. This is, I think, especially common in congenital syphilis, in that it is not uncommon to find patients of middle age with marked symptoms of congenital syphilis but with no Wassermann reaction or with a very weak one. The explanations which may be suggested are purely theoretical. It is possible, for example, that in these long-standing cases the body and the affected cells may have had time to adapt their metabolism to the new conditions, and that though the toxin may compel them to suffer degeneration this may not take precisely the same form as in the person who has been but recently infected. Or perhaps the body may develop some method of dealing with the products of cell degeneration which in the earlier stages of syphilis circulate for long periods in the blood. On the whole I think this is the more probable explanation. We know from the researches of Abderhalden and others that the body has many methods of dealing with foreign substances, and it is quite in accordance with experience in other conditions that it should evolve some way of destroying or absorbing the Wassermann substance when present in the blood for long periods of time.

In some cases, perhaps in all, the tissues of the patients in these advanced cases may be made to produce the Wassermann substance by the administration of salvarsan, as in the so-called provocative reaction. Salvarsan, as I shall show later, kills numerous spirochætes, thus releasing much endotoxin and causing a sudden outburst of cell degeneration. If the explanation of the absence of the Wassermann reaction I have suggested is correct, this would indicate that the mechanism which can deal with a small amount of the Wassermann substance is unable to cope with a large quantity. It is interesting to notice that these old cases of syphilis which give no Wassermann reaction usually give a marked luetin reaction, and this is especially the case after they have been treated with salvarsan or mercury.

The important practical point to remember is that the presence of a Wassermann reaction indicates the presence of active disease. Its absence, on the other hand, does not necessarily imply complete cure, except, perhaps, under conditions which I shall discuss subsequently.

THE ACTION OF DRUGS.

I pass on to deal with the action of drugs. Mercury and salvarsan are direct spirillicide agents, exerting a direct action on the organisms comparable to that of quinine on the malaria parasite. In the case of salvarsan there is direct *in vitro* evidence of this, but in the case of mercury the proof is indirect, though not less convincing. The effect of either of these drugs is to cause a more or less rapid destruction of the parasites, with liberation of their protein molecules. Hence, there is a very important indirect result—namely, a sudden increase in, or production of, the negative phase, and a subsequent increase in the production of antibodies. The latter phenomenon is, I think, responsible for no small part of the curative effect of the agents in question; they kill some of the spirochætes, and these killed bacteria then act as a vaccine, causing a production of antibodies which carries their curative action still further. How much of the beneficial effect of these drugs is due to their direct chemical action and how much to the secondary vaccine-like effect it is impossible to say.

You will have noticed that I speak of the solution of the spirochætes as a necessary condition for the production of antibodies and also for the development of toxic symptoms. This is the case with many protozoa, which when they inhabit the blood cause no symptoms unless they are first killed and dissolved, or unless, as in the case of malaria, they enter and destroy the red corpuscles; and in this case they cause symptoms only when the red corpuscles themselves are dissolved. Trypanosomata can flourish in large numbers in the blood of a guinea-pig, and cause no impairment of health whatever; but when a large dose is injected some of the animals may die, and in these no trypanosomes can be found in the blood or internal organs, having doubtless been dissolved by the trypanocidal substances in the blood (Wolff-Eisner). This is, of course, an example of the general law *corpora non agunt nisi soluta*, and it is a principle to bear constantly in mind in dealing with the action of these drugs.

The Herxheimer and other Reactions.

Take, for instance, the very important phenomenon known as the Herxheimer reaction. As is well known, the first effect of mercury, especially if given in a form in which the system is rapidly brought under its influence, is in many cases to cause a marked intensification of the rash, or if there be no rash present one may rapidly form; in addition to this, tonsillitis may appear or may be made worse, syphilitic headache, iritis, &c., may also be produced, or if present may be aggravated. The same thing, even more marked, may be seen after an intravenous injection of salvarsan; here a very large amount of an active spirillicide agent is thrown into the blood at once, many spirochætes are destroyed in a few hours or minutes, and much endotoxin is set free; the symptoms are often made decidedly worse for a few hours or a day or so, and it is always well to warn the patients of the fact. A similar phenomenon may be seen in the primary stage; the day after the injection the chancre may swell and become exquisitely painful, and even bleed profusely; and in this or in the secondary stage there may be high fever, which is certainly not due altogether to the presence of dead bacteria in the water, since it may occur when a dose of neosalvarsan is given in a small amount

(5 c.c. or less) of recently distilled water, as I have observed several times of late.

All these modifications of the Herxheimer reaction are due to the spirillicide action of the drugs in question, the dead organisms either undergoing autolysis or being dissolved by the spirillolytic substances in the blood, in either case with the formation of soluble substances which cause a reaction when they act on the hypersensitive tissues in the neighbourhood.

The iodides have no such action, so that it is sometimes recommended that we shall treat cases showing marked affections of the mucous membranes, such as laryngitis or tonsillitis, with these agents rather than with mercury or salvarsan. This, however, is a mistake, for the iodides have very little, if any, spirillicidal action, and relieve the symptoms rather than cure the disease. There is more reason for the use of iodides at the commencement of the treatment of diseases such as iritis and meningitis, in which a temporary flare-up of the symptoms may cause severe damage to the delicate tissues in the neighbourhood, but they must be followed by mercury or accompanied by small doses of that drug. The iodides, I may say, appear to act rather as an antitoxin than as a germicidal agent.

There are two other effects which may be produced by the action of mercury or salvarsan. The provocative reaction I have alluded to already, and have explained how it is caused by the destruction of organisms, the liberation of their toxin, and the consequent increased degeneration in the granulomata, with production of the Wassermann substance. The other effect is this: it may happen that the luetin reaction is absent in a late stage of the disease, and when this happens it can usually be made to appear by the exhibition of mercury or salvarsan. This is caused in a manner exactly analogous; the dead protoplasm set free by the destruction of the spirochætes sensitises the tissues to such an extent that they react to the same antigen in the form of luetin.

Disappearance of Wassermann Reaction in Relation to Cure.

When a patient has been vigorously treated with mercury the strength of the Wassermann reaction, as I have just remarked, tends to fall off, and this process continues until it disappears altogether. The negative Wassermann reaction at this stage depends on the absence of cell degeneration, and unfortunately does not prove that the spirochætes are exterminated. If treatment is stopped too soon the reaction gradually reappears, feebly at first, but subsequently more strongly, as the few spirochætes that have escaped destruction awaken into activity. This raises a most important problem: having removed the Wassermann reaction by mercury, how long are we to wait before its non-reappearance denotes the cure of the disease? In my own experience it usually comes back in three months, but may often be delayed for six. Occasionally it may be delayed much longer, and I have once known it to reappear a year after the cessation of treatment. I am under the impression that this may be regarded as a safe limit.

THE TERTIARY STAGE.

When I come to deal with the tertiary stage, or stage of gumma formation, I must admit that I am at considerable difficulty in finding a complete and simple explanation of the facts. The immunity reactions are now complex. The spirochætes are now rarely found in the blood, and are indeed present in but small numbers in the tissues; I think we may take this as indicating a blood immunity to the parasite. The spirillicide powers of the blood have come back to normal, or may indeed be increased. But the tissues are still sensitive. This is shown, amongst other things, by the effect of luetin, as applied in the Noguchi test: the reaction is almost always positive, frequently strongly so, so that the injection of the dead spirochætes may be followed by the formation of a pustule which breaks down and leaves an induration which may last some weeks. This does not mark a condition of immunity or of hyperimmunity as McIntosh and Fildes have recently suggested, nor, I think, does it indicate a great degree of hypersensitiveness. I look upon the condition as marking a gradual return to normal, a condition which it may reach if the disease dies out and all the spirochætes disappear.

Consider for a moment the nature of the histological changes which occur during an attack of syphilis. The first, the chancre, consists mainly of granulation tissue: there are cell proliferation and lymphocytic invasion, but there is but little of the dilatation of vessels and of the changes which are characteristic of acute inflammation. This is the reaction of the tissues when they are but slightly sensitive. But the nature of the earliest secondary lesions is quite different; here the changes, vascular and otherwise, of acute inflammation predominate, infiltration being entirely absent or but slightly marked, and these appearances I regard as indicating the reaction of the highly sensitive tissues. If we now trace the alteration of the lesions from this stage forward we find that we can construct a series—the papular syphilide, the follicular syphilide, rupia, and gumma—in which the acute inflammatory element gradually diminishes and granuloma formation becomes more and more marked, and the lesions which are formed come to resemble in their essential characteristic the chancre.

I must at this point remark that the fact that a syphilitic patient cannot be reinoculated with the disease does not indicate that he is, in the ordinary sense of the word, immune thereto. The fact is that (according to Finger, Wolff-Eisner, and others) he can be reinoculated, but that the resulting lesion matures rapidly into a small papule and the disease goes no further. This is, of course, due to the hypersensitiveness of the tissues; the defensive substances are more readily mobilised in a syphilitic patient than in a normal person, the period of incubation is shorter, antibodies or other defensive substances are soon on the spot in sufficient numbers to abort the further development of the spirochætes, and nothing but a small papule results. When the disease is completely cured it is completely reinoculable, the tissues having regained their former degree of sensitiveness; and I regard the tertiary stage as being an approach to this condition.

But I think there is another possibility which has to be considered, and that is that all this time the spirochæte is gradually altering in response to its changed environment, as we know may occur in better known bacterial infections. I have not time to go into this question at present, but it is one that must not be lost sight of as possibly playing a very important part in the pathology of the disease. I shall refer to it briefly subsequently.

PARASYPHILIS.

I will now pass on to the still vexed question of parasyphilis, a subject on which we have recently learnt much, but in which there is still much left for us to learn. We have here to explain the causation of a series of lesions in the central nervous system, picking out certain areas only, coming on late in the disease, and affected but slightly by ordinary antisyphilitic treatment. That they are syphilitic in origin no one now doubts, but I do not think we can say why they occur in but a small proportion of cases, the great majority of syphilitics escaping, and why the disease assumes these peculiar forms. From the earliest times theories of great ingenuity have been brought forward to explain their occurrence, and if with the increase of our knowledge some of them have been pushed into the background, it does not follow that they may not have a modicum of truth which an impartial inquiry will bring to light. The recent facts which claim our attention are, firstly, the common or perhaps constant presence of the spirochæte in the lesions in general paralysis, and its occasional presence in tabes; the fact, as shown by McIntosh and Fildes, that the lesions of these diseases are essentially similar to those of late syphilis in other regions; and the anatomical facts regarding the relations of the blood and lymph supply to the cerebro-spinal axis, as shown by the researches of Goldmann, Mott, Orr, and Rows.

McIntosh and Fildes have recently published an article which, I think, marks a real advance in our ideas of these affections.[2] They have suggested theories very similar to my own with regard to the hypersensitiveness, or, as they term it (incorrectly, in my opinion), the hyperimmunity of the tissues in syphilis: the difference being that they hold that this condition comes on late in the history of the attack, whereas I hold that it reaches its maximum early in the disease and gradually passes off; and they hold that parasyphilis is due to the reaction of the hyperimmune tissues to spirochætes localised in the nervous tissue proper, whilst cerebral syphilis of gummatous type is due to the reaction of the tissues localised in the lymph vascular system.

The Distribution of the Lesions.

I think this latter view must be accepted as substantially correct, but the question now arises, Why the remarkable distribution of the lesions? This they answer as follows, to take the case of tabes as a striking example. The spirochætes ascend the lymphatic paths which Orr and Rows have described as ascending to the posterior columns, and lie latent until the tissues become hypersensitive, when they cause the cell degeneration characteristic of the disease. The theory which I had evolved independently is very similar, in that it assumes that the spirochætes which cause the degeneration reach the nerve cells which they ultimately attack by ascending the peripheral nerves, probably within the sheath, between the nerve fibres themselves, as well as in the lymph vessels of the sheath. That this process does occur has been shown by Ehrmann, who found spirochætes in the nerves from the prepuce in two cases of ulcerated chancre of the prepuce. And Ehrmann further suggested that the organisms might ascend the nerves and reach the cord in the manner I describe, thus explaining the fact that tabes usually begins in the lower part of the cord.

It is objected by Nonne, and the difficulty is an obvious one, that not all cases of tabes do begin in this region, and that it is impossible to show that tabes cervicalis follows a primary lesion of the head or face. I do not think this is an insuperable difficulty. Let me recall what happens in tetanus. In this disease the toxins make their way exclusively up the nerves to the central nervous system, producing no symptoms until they reach the ganglion cells. When they are produced in the tissues they ascend the nerves of the region, so that as a rough general rule the longer the nerve path which intervenes between it and the brain or cord the longer the incubation period. But if the toxin is introduced into the blood it rapidly disappears, apparently entering the nerves through the end-plates and again climbing to the ganglion cells. Is there any reason why the spirochætes may not act in a similar manner? Or may not the entry to the nerve be from a secondary or even tertiary lesion, as well as from a primary one? In this connexion it is interesting to notice, as McIntosh and Fildes point out, that Orr and Rows have detected lesions resembling those of tabes in the cord in patients suffering from chronic skin diseases.

Rabies is another disease in which the virus ascends the nerves, and it is one which is still more to the point, inasmuch as in this case it is an actual protozoan organism which acts in this way, and not a mere chemical toxin. In this case also there is a selective localisation of the organism when it has reached the central nervous system.

Evidence Afforded by Results of Treatment.

Tetanus, rabies, and parasyphilis resemble one another in one important point, and that is in the way in which they resist treatment. Take the case of tetanus. We have here an antitoxin of great potency, yet when it is administered subcutaneously in the ordinary way its action is disappointing in the extreme. This is accounted for by the fact that it does not gain access to the toxin which has already reached the nerves, and as a result of this theory the injection is now made into the brain, the spinal theca, or into the nerves themselves, with very much better results.

It seems to me that the same would be true of the action of mercury and salvarsan on spirochætes which had already reached the nerves. I am not now speaking of the alleged incurability of developed parasyphilis, but of the fact that these diseases may follow after the most thorough antisyphilitic treatment; indeed, some observers hold that the treatment does not prevent its development in the slightest degree, and may even accelerate it (Collins, Schuster). I do not mean to imply that the statistics which these observers have produced have any necessary validity at the present time, when the treatment of syphilis is so much better understood and we have the Wassermann reaction as our chart and compass; but undoubtedly the experience of competent authorities in the past has been that thorough treatment as they understood it did not prevent the onset of the disease, even if, as others held, it diminished the frequency of their occurrence. This, I think, fits in well with the idea of the organisms ascending or lying latent in the nerve trunks, there sheltered from injury by the agents which destroyed them in the rest of the body.

Difference in the Theories: their Incompleteness.

The ideas I have brought before you differ from those of McIntosh and Fildes in this one point:

[2] THE LANCET, Sept. 27th, 1913, p. 921.

they assume that the spirochætes ascend the nerves and lie latent until the nerve cells become sensitive owing to a general rise in the sensitiveness which comes on late in the disease; whilst I hold that the symptoms arise when they have ascended the nerves and come in contact with the nerve cells, which on my theory are already sensitive and have been so for some time past. I believe the general facts of the disease fit in better with the idea of the spirochætes lying latent in the nerves rather than in the delicate nerve cells or in their neighbourhood, especially as I hold most strongly that the sensitisation of the tissues generally comes on quite early and is well marked in the secondary stages.

I must emphasise the fact that neither of these theories, even if they are substantiated, will suffice to afford a full explanation of the causation of parasyphilis, for neither of them explains how this peculiar localisation or this peculiar degree of sensitisation is brought about in the few patients, the many escaping. The possibility of some forms of syphilis having a special predilection for the nervous system has long been recognised, and is inherently probable, and there is some evidence in favour of its occurrence from several cases that have been described of outbreaks of syphilis which have been derived from the same person and have been associated with an unduly high proportion of parasyphilis. The most striking case, perhaps, is that of the seven glass-blowers described by Brosius, who all contracted chancre of the lip from the same source, and in whom five subsequently developed tabes or general paralysis. A good many similar cases are on record, and the idea seems to be inherently probable. Similar phenomena are seen in other diseases; thus bovine and human tubercle bacilli resemble one another very closely, but the former has a marked preference for the bones and alimentary canal, the latter for the lungs. The question of the differing idiosyncrasies of the different patients, their hereditary predispositions, and their habits, especially with regard to alcohol, exertion, whether mental or physical, &c., all have to be brought into consideration.

At present there does not appear to be a complete explanation of the facts, but the proof of the localisation of the spirochætes in the brain constitutes an enormous step in advance, and one that has brought us on to firm ground from which we can advance yet further.

THE CURABILITY OF SYPHILIS.

Now let us consider the curability of syphilis in its various stages.

Early and Secondary Stages.

At the very outset of the disease, before the spirochætes have generalised, it can be cut short once and for all by the excision of the chancre; the exact length of time after infection during which this is possible cannot be stated with accuracy, but it is quite short and has terminated long before the appearance of the Wassermann reaction. And after generalisation has occurred there is no object whatever in performing excision; the idea that the patient will derive benefit from a cutting-off of a further supply of spirochætes from the primary lesion is quite mistaken.

During the late primary and early secondary stages the disease is readily curable, and many patients who have received energetic treatment after the development of undoubted secondary symptoms remain for many years free from all reminders of the disease, and their blood and cerebro-spinal fluid show no Wassermann reaction.

In the later stages, after the late secondary symptoms, and even more after the development of tertiary symptoms, the disease enters into a stage in which the prospect of cure in the modern sense—that is, the complete destruction of every spirochæte in the body—becomes gradually more and more difficult. Some, in fact, go further than this, and say that if a patient has once developed secondary symptoms cure is impossible. I think this is an entirely mistaken and unnecessarily pessimistic view, and one that is to be regarded merely as a reaction from the too optimistic views which were once held when salvarsan was first introduced, and we hoped for a *therapia magna sterilisans* after a single dose of the drug.

Tertiary Cases.

I am confident that tertiary syphilitic cases do recover completely: I have seen patients who have suffered from gummata and who, after energetic treatment with mercury and salvarsan or even after mercury alone, have shown neither symptoms nor Wassermann reaction for two years after the cessation of treatment; and I have seen elderly patients who have undoubtedly suffered from syphilis, which from the history had probably reached a tertiary stage and was then thoroughly treated, who have remained for many years without symptoms and who show no Wassermann reaction.

Why should we be so pessimistic with regard to these patients? If they have remained for so many years free from the disease, why should not they do so for the rest of a long life? I think, however, that the strongest proof is to be gained from cases of congenital syphilis, which, unless the patient dies from the disease itself or from intercurrent maladies (to which they are especially prone), tends to spontaneous cure, though of course the patients may be blinded or otherwise crippled from the results of the disease. But there can be no doubt that the longer syphilis has been present the less easily can it be cured, and I think we must admit that there is a certain proportion of cases (other than parasyphilitic affections) which are excessively resistant to treatment and possibly incurable.

What is the pathology of these cases? I do not know whether any direct observations have been made on the subject, but I think we may assume that they show a positive luetin reaction (it is practically constant in all advanced cases, especially after treatment), and this shows that the tissues have not lost their power to produce antibodies. It appears far more likely, though it is not yet proved, that these cases owe their relative incurability to a change in the spirochætes, which become immune to salvarsan and to mercury, and perhaps also to the syphilitic antibodies. Phenomena precisely similar to these are demonstrable beyond doubt in the case of other organisms, both protozoal and bacterial. Whether they can ever be demonstrated in the case of syphilis is another matter; to do so it will be necessary to get pure cultures, and it is quite possible that the change to an artificial culture medium will cause them to lose their newly acquired properties with great rapidity, just as bacteria which have become highly virulent by the loss of their sensitiveness to defensive antibodies lose their virulence when cultivated on artificial media outside the body.

I think, however, we can obtain a little indirect

evidence in favour of the supposition by a consideration of the observed fact that an alternation of mercury and salvarsan is more efficacious than either remedy alone. A spirochæte may gradually acquire tolerance to either drug when submitted to its action for long periods of time, but when exposed for a short time to arsenic and then to mercury it is quite in accordance with general biological facts that it should acquire tolerance for neither. And I believe late cases of syphilis are best treated in this way, with perhaps occasional periods of iodides.

Parasyphilitic Infections.

Now as to the alleged incurability of the parasyphilitic affections. I think here the issue has been confused by the fact that the patient who has had some of the important portions of his nervous system destroyed will not be clinically cured after the syphilis has been entirely eradicated; unless other portions of the nervous system can take up the functions of the destroyed parts he will be little better off than before, with this difference, that the disease will not progress. And that such a result can be accomplished with mercury alone, as Hayes has shown, I sincerely believe. But the question has entered on a new phase by the introduction of salvarsan and by the newer method of giving it introduced by Swift and Ellis. Even with the old method many cases can be brought to a standstill after a few injections, and in a few cure in the sense in which I have used the term has been obtained.

The new method of giving salvarsan in these cases is very interesting. Its theory is founded on the fact that the cerebro-spinal fluid acts as the lymph for the cerebro-spinal system, and that it forms a system of its own devoid of any direct connexion with the blood or lymphatic systems generally. Thus but few drugs which are injected into the blood or taken by the mouth are excreted by the choroid plexuses into the cerebro-spinal fluid and thus brought into contact with the nerve elements themselves. To remedy this Swift has proposed to inject the curative material directly into the cerebro-spinal fluid by lumbar puncture. The curative material in question consists, in his opinion, of antibodies which circulate in the blood after an injection of salvarsan. He gives an injection of that drug or of neosalvarsan, waits for an hour (after which time, he thinks, there is a large amount of antibody in the blood), bleeds the patient, allows the blood to clot, collects the serum, and injects it, after heating it to 60° C. to destroy the complement and diluting it with normal saline solution, into the spinal canal. I believe as a matter of fact that the theory is not a correct one, and that the serum owes its activity to the presence of minute traces of salvarsan. It seems quite impossible for large amounts of antibodies to be developed in so short a space of time.

In any case the results are very striking. I have already applied this method in three cases, one of general paralysis and two of tabes, with very excellent results. The paralytic patient's mental condition has improved in a very striking manner after a single injection, and his physical condition is also much better. The cases of tabes have also improved in a very gratifying manner, especially in regard to the practical complete loss of the lightning pains. In one case (a patient of Dr. H. W. A. Cowan) the light reflex, which had been absent for some years, has completely returned; in the other the light reflex is now normal, but there is some difference of opinion as to its absence previously, though, according to Sir David Ferrier and the house physician at King's College Hospital, this was actually the case. In all these cases there has been a diminution in the number of lymphocytes and the amount of globulin in the cerebro-spinal fluid. I do not for a moment claim that these patients are cured, but certainly the results are most encouraging. I think we must modify very considerably the statement that the parasyphilides are incurable. Allowing for the fact that they are examples of these late cases of syphilis in which the spirochætes are probably arsenic- and mercury-fast, and that they occur in a region which is not easily reached by drugs, I do not think they are less curable than we have any right to expect.

THE PROOF OF CURE.

Lastly, as to the proof of cure. The one and only certain proof of this happy consummation is the possibility of reinfecting the patient; this shows that his tissues have returned to their normal degree of sensitiveness, which cannot happen if there are spirochætes still in the body. This test is, of course, impracticable, and we must look about for something else. Whether the luetin reaction will help us in the future is as yet unknown, and at the present time we have to fall back on the Wassermann reaction. Under what circumstances does a negative reaction indicate cure?

To begin with, it is quite useless to draw any inference from its absence unless we know that it has been present comparatively recently. If we do not remember this we may find that we are dealing with one of the cases in which it has spontaneously disappeared in the tertiary stages, as I have already described, whilst the disease is still active. Then we must remember the effect of treatment; mercury and salvarsan will remove the reaction without necessarily curing the disease, the negative phase (if I may use the expression) lasting for so long a time as a year. Taking these facts into consideration, I think we may deduce this as a working rule: if in a patient whom we know to have had a Wassermann reaction we find it remains absent for a year after the cessation of treatment, we may assume with a high degree of probability that he is completely and radically cured, and I think we shall very seldom be mistaken. If we want a higher degree of certainty still, we may give an injection of salvarsan and see if the reaction reappears, and if it does not do so I believe the chain of evidence is complete.

DONATIONS AND BEQUESTS.—By the will of the late Mr. John Hogg, of Belfast, the testator among other bequests left £5000 to the Royal Victoria Hospital, Belfast, £2000 to the Forster Green Hospital, Belfast, and £1000 each to the Ulster Hospital for Women and Children, the Hospital for Sick Children, Belfast, the Samaritan Hospital, Belfast, the Ulster Eye, Ear, and Throat Hospital, the Society for Providing Nurses for the Sick Poor, and the Ulster Institution for the Deaf, Dumb, and Blind.—The late Miss Amanda Hinchliffe, of Southport, has left by will £4000 to the Royal Halifax Infirmary, £1000 to the Bath Hospital at Harrogate, and £500 to the North of England Children's Sanatorium.—The governors of the Hampstead and North-West London Hospital have received a donation of £1000 from Mr. H. Gosschalk to name a bed in memory of his wife.—The *Referee* Children's Fund has sent £1000 to the Queen's Hospital for Children, Hackney, for its seaside branch at Bexhill.

DOSAGE:

SOME SUGGESTED AMENDMENTS IN THE MANNER OF STATING THE DOSES OF MEDICINES IN THE BRITISH PHARMACOPŒIA.

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THE presentation in the British Pharmacopœia of official doses of all medicines used for internal administration has one practical advantage—it forms for the public an additional safeguard against possible error. In the absence of such doses the dispenser has no authorised avenue through which he may approach the physician to seek the confirmation or correction of a dose which *primâ facie* appears to be excessive. As safety in the framing and dispensing of prescriptions is of large public interest, it is not unreasonable that the national Pharmacopœia should provide machinery by which an accidental error on the part of the prescriber may be checked and remedied. This is the one valuable function which the pharmacopœial doses discharge. They put the dispenser in a position to secure the correction of an excessive or dangerous dose due to a miscalculation or slip of the pen committed accidentally by the prescriber. In this way they promote the safety of the public, and hence are capable of defence on the broad ground of the general interest.

There is, however, something to be said on the other side. The creation of an official dosage is not an unmixed boon. On the contrary, it involves certain disadvantages and dangers; and the claim here to be submitted is that it is the duty of the Pharmacopœia to provide safeguards against the risks which its official scheme of doses calls into existence.

The Mischiefs of Pharmacopœial Doses.

The chief count in the indictment which may be urged against the existence of pharmacopœial doses is that they tend to hinder liberty of prescribing. Appearing in a volume enjoying a definite legal status, they acquire, almost inevitably, a certain official halo and sanction. So dignified, they are carried from the Pharmacopœia into the text-books of materia medica and therapeutics; and they form the general standards of examiners. Hence the medical student becomes accustomed to regard such doses as authoritative; and even the prescriber, influenced by his early habits, remains in greater or less measure sensible of their restraining influence and feels more or less acutely the advisability of keeping his prescriptions within the limits of the official figures. But efficient and successful prescribing is not cultivated by adherence to a system of rigid rules; it demands, rather, the adjustment of doses of selected remedies to the needs, peculiarities, and idiosyncrasies of the individual patient. Dangers no doubt attend excess, but equally they attend defect. Against the one there are constant warnings, but the mischiefs of the timid and officially restricted prescriber are rarely recited. These mischiefs, it is here contended, the existence of a scheme of official doses tends to excite and maintain. It is therefore a fair claim that the promoters of such a scheme should take steps to avoid the harm of which it is capable. In short, the doses of the Pharmacopœia ought to be presented in such a fashion as to indicate clearly that, while useful as an opportunity for discussion between dispenser and prescriber, they have no jurisdiction over the judgment and freedom of the physician.

That this is the true aim and purpose of the pharmacopœial doses there can be no question. In the preface to the official volume it is plainly stated that these doses "are not authoritatively enjoined," and that "the medical practitioner must act on his own responsibility as to the doses of any therapeutic agents which he may administer." But, buried in a preface, these statements are rarely revived as active and urgent doctrines. They seldom, if ever, penetrate into the manuals of materia medica and therapeutics, and probably many students pass through the curriculum without hearing of their existence. It is therefore no exaggeration to say that the intention of the Pharmacopœia in this respect is not achieved. The concealed wisdom of the preface rests undiscovered, while the impressive examples apparently afforded by the text carry a full influence. Accept this contention, and it follows, that if the true meaning of the pharmacopœial doses is to be widely appreciated, and if their unwholesome restraining influence on practice is to be avoided, something more than the general propositions of the preface is necessary. The limitations and qualifications there announced must be carried into the text of the volume, and this in such a fashion that in each individual instance there shall be a clear intimation that the "dose," as stated, is "not authoritatively enjoined," and that the official figures neither limit the judgment of the practitioner nor diminish his responsibility.

"*Pharmaceutical Dose.*"

The harm of the present position arises from the use, without qualification, of the word "dose." It is because they are presented in a fashion so absolute, that the official figures have acquired an authoritative quality to which they have no real title. The suggestion I now offer is that these figures should be deprived of their artificial prestige by the introduction of the limiting term "pharmaceutical"—that, in short, the "doses" of the Pharmacopœia should be printed and quoted as "pharmaceutical doses." Such a phrase would furnish an occasion to the teacher to explain to his pupils its meaning and necessity, and would be a permanent proclamation that neither the Pharmacopœia nor the General Medical Council cultivates the desire either to give lessons in therapeutics or to direct or control the judgment of the prescriber. Further, the term "pharmaceutical dose" can be defended as strictly accurate, for the doses announced in the Pharmacopœia are those which, appearing in a prescription, pharmacists may safely dispense without seeking the special and personal warrant of the physician—they are authoritative doses for members of the pharmaceutical craft or calling. "Pharmaceutical dose" is therefore both correct and appropriate; it indicates the real significance of the official figures, and also prevents them from being regarded as therapeutic lessons. Hence its adoption, without qualifying in any degree such advantages as the existence of a scheme of pharmacopœial doses ensures, would announce openly the freedom of the physician to act on his own judgment.

To take a single example. The dose of tincture of digitalis according to the Pharmacopœia is 5 to 15 minims, and this, in the terms of the preface,

represents "the average range, in ordinary cases." With such a description there is no need to quarrel, but it would be absurd to suggest that the figures as quoted limit the amount of tincture of digitalis which the physician may prescribe. What is wanted is the plain and unambiguous proclamation in the pages of the Pharmacopœia that the pharmacopœial doses have no such limiting effect; and the adoption of the phrase "pharmaceutical dose" would, I suggest, secure this end.

If the necessity for a qualifying term is once allowed, there seems to be none so satisfactory as the one here proposed. "Official dose" would rather aggravate than help the present position, as it suggests authority and command; and "pharmacopœial dose" would have much the same note. Even "average dose" might propose the doubt whether what is formally defined as "average" could be safely exceeded—at least, in any considerable degree. "Pharmaceutical dose" both gets rid of all suggested pressure of official orthodoxy and authority and announces in accurate terms the modest function which it is the purpose of doses named in the national Pharmacopœia to satisfy. It preserves the public advantage, and lessens, or even avoids, the dangers carried by the existing practice.

The Metric System.

A second suggestion which I venture to advance is that the doses stated in the Pharmacopœia be stated in terms of the metric system. The advantages of this system are generally allowed, if not in commercial operations, at least in scientific weighings and measurings, where prescribing and dispensing may fairly be placed. Yet in these activities the metric notation makes little or no advance. Everyone applauds the method, but no one adopts the practice. In spite of the benedictions of congresses and editors, custom and habit maintain their supremacy and the revolution "evaporates in complimentary harangues."

The reason for this stagnation is not far to seek. It is found in the last resort in the practice of presenting the doses in the Pharmacopœia in terms of the imperial notation, and in this notation only. Almost inevitably, therefore, the doses of medicines appear in this guise in lectures and text-books, and are so acquired by students of medicine. Thus, the student necessarily learns to think and speak of doses in terms of the ordinary weights and measures. What he learns as a student he continues as a prescriber, and the dispenser, willingly or unwillingly, follows suit. The sequence is complete. The Pharmacopœia determines the speech of the teacher, text-book, and examiner; these in turn control the student; the prescriber is but the student writ large; and the prescription fixes the habit of the pharmacist. All find the ultimate reason, or excuse, for their adhesion to the imperial notation in the example and custom of the Pharmacopœia.

If, however, the pharmacopœial doses were written in metric terms the entire position would be changed. In lectures and text-books doses expressed in these terms would certainly appear. The student would therefore learn to think of doses in decimal quantities, and teachers and examiners, though doubtless with difficulty and reluctance, would be driven to the same habit. Accustomed in the days of his youth to think in metric terms, the prescriber, when his opportunity comes, will certainly write his prescriptions in this language; and the dispenser will follow, without choice. In short, the key of the position for those who wish to see the adoption of the metric system in prescribing and dispensing, is the scheme of doses printed in the Pharmacopœia. Until this is captured the demands of preliminary examinations, and the invention of ingenious devices for the ready translation of ordinary weights and measures into metric equivalents, will be exercised in vain. In spite of these methods of pressure and persuasion the prescriber will continue to write in the terms in which he has been trained to think, and he will be trained to think in the imperial notation so long as this is the language of the doses of the Pharmacopœia. It is only by a change in this language that the adoption of the metric system in medicine and pharmacy can be attained; and it is to this essential point that the advocates of the metric system should address themselves.

Use of Metric System in Previous Editions.

Some amount of encouragement in the desired direction can be found in the history of the Pharmacopœia. In the preface to the issue of 1867 the General Medical Council recognised "the advantages that would result from the adoption of one uniform system of weights and measures," but felt unable to employ, "even as an alternative," a system which "as yet is to a great extent unknown in this country"; they did, however, sanction the metric terms to this extent, that authorised test solutions to be used for volumetric estimations were printed both in British weights and measures and in terms of the metric notation. In the 1885 edition no reference was made to the question of weights and measures, but as the preface to the 1867 edition was reprinted in the 1885 issue, the Council presumably agreed generally with the position there defined. In 1898 the alternative employment of metric weights and measures was extended to the main text of the Pharmacopœia, so that since this date it has been permissible to conduct all operations of weighing and measuring required in the manufacture of the official preparations, either in metric weights and measures, or in the weights and measures of the imperial notation. At the same time the alternative in reference to processes of gravimetric and volumetric analysis was abolished, and here the metric system alone appeared. The movement, in short, has been to offer alternative systems, first in the strictly analytical sections of the Pharmacopœia, and next in the manufacturing and pharmaceutical sections, and from this to advance, as in the case of the analytical section, to the metric system standing alone. The doses, however, have remained in terms of the imperial notation only. It would seem to be in harmony with the previous record that these should now be offered in metric terms; and this is the suggestion I here venture to propose.

Doses both in Metric Terms and Imperial Notation.

It is, however, only reasonable to allow that, at first, the metric terms may have to be offered merely as an alternative to the doses as at present stated. This would both follow precedent and would avoid the risk of detaching the Pharmacopœia from the habits and customs of the constituency with which it is concerned. After all, it has to be remembered that the Pharmacopœia is an instrument of education in an indirect sense only. In order that it may serve the public interest it must keep in touch with the existing state of medical practice. An abrupt presentation of the pharmacopœial doses in metric terms only would certainly mean a separation between the language of the

Pharmacopœia and that of the general body of prescribers; and such a separation would be out of harmony with the main purpose of the Pharmacopœia. But to offer the doses in terms both of the metric system and of the imperial notation, especially if the former were given the first rank, would give the decimal plan an opportunity with the prescribers of the future, without creating any division between the Pharmacopœia and the practitioners of the present day. No doubt, even if such a change is made, movement will be slow. But almost certainly there will be some movement, whereas, under existing conditions, the metric system in practical medicine and pharmacy gains many compliments, but makes no progress. It is in vain that advocates of this system address themselves to prescribers whose habits of thought and expression are already fixed; these are beyond hope and must be left in their sins. With the future generation there is some chance. But the Pharmacopœia must lead the way, and, in the fashion here proposed, it can do this without any sacrifice of the object and purpose for which, under the authority of the Legislature, it has been called into existence.

Harley-street, W.

THE BISMUTH URETERAL CATHETER, COLLARGOL SOLUTION, AND BARIUM SULPHATE SUSPENSION IN THE DIAGNOSIS OF SOME URINARY DISEASES.

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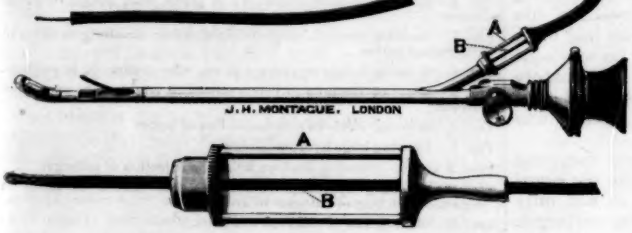
(*With Illustrative Plate.*)

Catheterisation of the Ureters.

As it is not possible to arrange to have the help of the same assistant every time I catheterise a ureter, I rely entirely upon myself for the performance of this operation. During an experience of six and a half years not a single patient has been infected, and this I attribute (1) to using strong antiseptics for my hands and (2) to the constant use of my aseptic ureteral catheter sheath which I introduced in 1907.

Aseptic ureteral catheterisation sheath.—This sheath (Fig. 1) reduces to a minimum the danger of carrying sepsis to the high urinary tract, and it comprises two detachable portions—namely, metal and rubber. The metal one consists of a perforated screw-cap and a conical-shaped portion (with broad base and funnelled apex); these are fixed to one another by two thin side rods marked A in the diagram. The screw-cap is a replica of the one on the upper end of the compartment for transmitting the ureteral catheter of the Nitze catheterisation cystoscope. A piece of rubber tubing, 22 inches long and with a bore of one-eighth of an inch, completes the apparatus. The rubber tubing is made to slip over the bulbous bell-mouthed apex of the "cone," and the whole is screwed on to the cystoscope. The ureteral catheter having been introduced into the rubber tubing the catheter is pushed onwards. Owing to the funnel-shaped apex of the metal portion the catheter B readily enters the lumen of the "cone," reappears between the two metal connecting rods, and negotiates the orifice leading into the ureteral compartment of the cystoscope. When the *vis a tergo* has introduced the catheter as far as possible, grasp it between the thumb and index finger of the right hand and push onwards as required. The advantages of this sheath are obvious. It is simplicity itself. The present real dangers from sepsis owing to the catheter touching the operator's face, hair, and being breathed upon are avoided. It is easily sterilised, for both rubber and metal portions will boil. Excepting for the end remote from the tip there is no need to handle the ureteric catheter until it is well inside the cystoscope. The rubber tubing can lie anywhere, over the cystoscopist's shoulder, in between the patient's legs, &c. Without this addition there is a great liability for the catheter to double up at the point of handling when it is being pushed onwards; the opposing thumb and index finger slide up and down the side rods and give the necessary support. It is necessary to use a lubricant for the rubber tubing in order to make the catheter travel more easily; a suitable one is glycerine, and it may be introduced by a sterilised pipette. This sheath can be fitted to any cystoscope.

FIG. 1.



Author's aseptic ureteral catheterisation sheath.

I usually wear rubber gloves during the operation. Just before the introduction of the cystoscope a sterilised cotton glove is put on to the right hand over the rubber glove, as this cannot grasp the slippery lubricated ureteral catheter.

Technique.—I always have the patient in the full supine position on a reasonably firm bed or couch. During the early part of my career I failed in one or two cases to get a catheter into the ureter entirely because the patient was lost in the depths of a feather bed! If possible a general anæsthetic is never employed. Anæsthesia undoubtedly interferes with the renal function, which interference renders it difficult to get an accurate record of the amount of work each kidney is capable of performing. Moreover, I have a wholesome dread of injecting, either by a syringe or by gravity, any fluid into the renal pelvis of a patient who is unconscious through anæsthesia.

To avoid inserting a catheter into the wrong ureter.—Experience has taught me that to insert a catheter into the wrong ureter is a matter of great ease, especially if the patient is restive during the catheterisation. I have made this mistake more than once, and Fig. 2 shows an X ray photograph, with abnormal shadows in the pelvis, where a bismuth bougie *is in the wrong ureter*. To avoid a recurrence of this mistake I now always put a blue pencil cross on the skin over Poupart's ligament of the side I wish to

catheterise. This "cross" is constantly catching the operator's eye during the catheterisation and eliminates the source of error mentioned.

Mapping Out the Line of the Ureter.

To be able to map out the line of the ureter is of great use in the interpretation of any abnormal shadow in the situation of the renal pelvis, or line of the ureter. These abnormal shadows include a calculus *in* the pelvis of the kidney or the lumen of the ureter, also phleboliths, calcareous glands, and seminal vesical concretions (in the case of the male).

Methods of demonstrating the ureter.—These are (1) a silver stylet in the lumen of an ordinary ureter catheter; (2) a catheter, or bougie, impregnated with bismuth; and (3) collargol solution. Neither (1) nor (2) have proved to be quite satisfactory. Excepting in thin patients my results with the wire have not been very successful. The bismuth bougie and the catheter are both most unsatisfactory, for they are expensive, unreliable, and the deterioration is rapid; even if one capable of giving a good shadow is obtained, these bougies have a short, even if a useful, life. The last-mentioned method is, I think, the most certain way. The lumen of an ordinary ureter catheter is filled with a column of collargol solution, or the radiogram is taken while the collargol is trickling down the ureter from the renal pelvis. I understand that this method has now entirely replaced the use of the silver wire in the Mayo clinic.

Calculus in the renal pelvis.—Fig. 3 shows a bismuth bougie lying in the right ureter, and actually touching a large calculus in the pelvis of the right kidney. The patient was a young woman who seven years previously had had the appendix removed for persistent right iliac fossa pain; the operation of appendicectomy gave no relief. The calculus was subsequently removed by Professor Rutherford Morison, and the patient did well.

Calculus in the ureter.—Fig. 4 shows a bismuth bougie touching a stone. In such a case as this, with a stone lying in the lower end of the ureter, it is important not to move the cystoscope until the radiogram has been secured, otherwise there is a great danger of the catheter being withdrawn to a slight degree, and it will then fail to touch the stone. In this case the stone had been lodged in the same situation for some weeks previously. Dilatation of the ureteric orifice was sufficient to enable the stone, which was a spiculated one, to pass, and the patient voided it per urethram.

Shadows outside the ureter.—Fig. 5 demonstrates shadows in the pelvis, which by means of the bismuth bougie were proved to be away from the line of the ureter. The patient had previously passed renal calculi, which he showed to his medical attendant, and after a radiogram had been secured showing shadows in the pelvis he was sent to have these removed by operation. Fortunately for the patient, the bismuth bougie showed that the abnormal shadows were not calculi, and he was spared a useless operation.

To illustrate the necessity of sometimes mapping out not only the line of the ureter but also the renal pelvis.—Fig. 6 illustrates the necessity of not only using a bismuth bougie, but of employing collargol. This patient complained of right-sided renal colic, and X rays on two separate occasions showed a shadow in the same situation. A bismuth bougie was inserted as far as the renal pelvis, showing that the shadows were external to the line of the ureter. These shadows were then interpreted to be in the lower pole of the kidney. Had pyelography been resorted to in this case I feel quite sure that I would have been able to have shown that these shadows were away from the kidney altogether; that they were not renal calculi was subsequently proved by operation.

Pyelography.

Voelcher, of Heidelberg, ingeniously conceived the idea of mapping out the renal pelvis with collargol solution in order to gain information as to its size, shape, and position. This was enthusiastically taken up by Braasch, who recently recorded having successfully done over 1000 cases by this method.

Strength of collargol solution used.—With regard to the degree of dilution of the collargol, I have used solutions varying from 3 to 20 per cent., but 10 per cent. is the strength usually employed. The strength of the solution largely depends (1) upon the stoutness of the patient; (2) upon the degree of a hydronephrosis (if such be present), which it is impossible, as a rule, to empty completely through the ureter catheter, and which results in a further dilution of the collargol solution; and (3) if an abnormal shadow has been seen in the situation of the renal pelvis a weak solution must be employed, for should a stone be lying in the pelvis or a calyx and too strong a solution used, the probability is that the calculus shadow will be obliterated by the collargol shadow.

Effects of collargol.—Various dangers in the injection of collargol have been mentioned. In addition to sepsis Oehlbecker reports a case where there were areas of necrosis, infarction, and cast formation after the renal pelvis had been distended under high pressure. Zacharisson found casts one year after injecting the healthy kidney; Jewell reports embolic gangrene; while Eckehorn records a case of œdema of the kidney. In order to ascertain the truth of these statements Strassmann experimented on live rabbits, and came to the conclusion that the injection of collargol in proper amounts and under moderate and careful pressure into the renal pelvis does not produce harmful results and in no way brings about noteworthy changes in the pelvis of the kidney.

I have now injected collargol in a large number of cases without any ill after-effect. Braasch also reports over 1000 cases without any harmful result. I have had one case where a considerable quantity of collargol lay in a hydronephrotic kidney for a fortnight without doing any harm whatever, the condition being found at operation. If I

DESCRIPTIONS OF ILLUSTRATIVE PLATE.

FIG. 2.—Showing abnormal shadows in pelvis, with bougie in wrong ureter.

FIG. 3.—Showing bismuth bougie in right ureter, touching calculus in right renal pelvis.

FIG. 4.—Showing bougie touching a stone, with cystoscope in position.

FIG. 5.—Showing shadows in pelvis proved by bougie to be away from ureter.

FIG. 6.—Showing shadows external to line of ureter.

FIG. 7.—Showing large hydronephrosis.

FIGS. 8 AND 9.—Showing shadows following injection of collargol.

FIG. 10.—Showing hydronephrosis. Note that shadow of pelvis is separate from that of catheter in ureter.

FIG. 11.—Radiograms of different solutions.

1. $BaSO_4 = 10 + 1$ ... ...
2. ,, $= 10 + 2$ ... ...
3. ,, $= 10 + 4$ ... ...
4. ,, $= 10 + 5$ ... ...

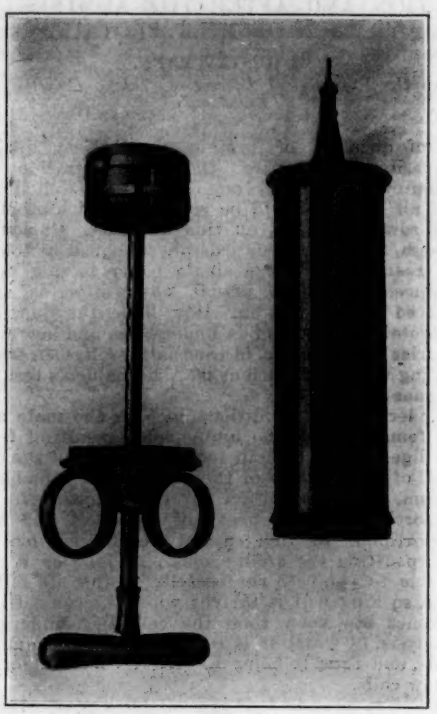
i.e., 10 parts of ol. amygd. dulc. + 1 part of $BaSO_4$.

5. Collargol = 10% ... ...

FIG. 12.—Showing bladder distended with barium sulphate solution in oil.

make a collargol injection for diagnostic purposes the renal pelvis is emptied through the ureter catheter before the latter is withdrawn. If, however, the collargol is injected for purposes of medication, then it is not withdrawn, but left to find its own way out. I feel satisfied, therefore, that where harm has been done it has been due to over-distension of the renal pelvis, amounting, perhaps, to even rupture, and in all these cases the patient was probably under a general anæsthetic.

FIG. 13.



Syringe and piston.

Technique of injection without a general anæsthetic.—After getting the ureter catheter *in situ* the kidney area is palpated to empty a hydronephrosis, if such be present, and in any case I collect sufficient urine to make a complete examination before proceeding to inject the collargol. In this way the catheterisation serves two separate useful purposes: (1) the renal function is estimated; and (2) the degree of any hydronephrosis is ascertained. The collargol is then injected with a syringe if the patient has not had an anæsthetic, or by means of gravity if an anæsthetic has been employed.

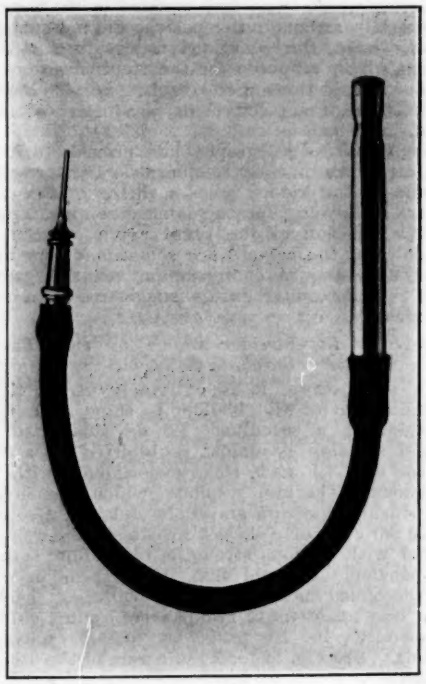
To obtain a syringe which is satisfactory for the purpose of injection has been a matter of no small difficulty, owing to leakage past the piston. It is necessary to have a syringe of about four ounces capacity and one easily sterilised. The piston must work easily; although if it is too free then the solution leaks past the piston and the actual amount injected into the renal pelvis is unknown. The piston of the syringe I now use has two rings on it, and these prevent any leakage past of the collargol solution. (Fig. 13.) The lumen of the barrel should be lubricated with sterile vaseline before sterilisation of the syringe in order to facilitate its working. The metal rod connecting the piston to the handle is marked off in 5 centimetres in order that the amount of solution injected can be easily ascertained.

It is absolutely essential to make the injection slowly. As the lumen of the ureteric catheter is very small the nozzle of the syringe must also be of small calibre. The funnel of a ureter catheter is of little use to me, as I usually withdraw the cystoscope and leave the catheter *in situ*, and of course the large funnel cannot travel along the small compartment of the cystoscope.

If it is desired accurately to determine the degree of hydronephrosis the ureteric orifice must be watched by means of the cystoscope during the injection of the collargol. Immediately the black-coloured fluid runs into the bladder alongside the catheter the operator knows that the limit of distension of that renal pelvis has been reached.

Technique of injection with a general anæsthetic.—For injecting collargol where the patient is under an anæsthetic I ascertain if possible the size of the renal pelvis by bimanually compressing the same, and carefully measure any urine secured. It is only safe to allow a similar amount of collargol to run into the renal pelvis, and even then I use an irrigator attached to the small nozzle by flexible rubber tubing, this nozzle being of smaller size than that of the syringe. (Fig. 14.) The collargol solution is allowed to run in by gravity.

FIG. 14.



Irrigator an nozzle.

I attach great importance to the distension of the renal pelvis *without* a general anæsthetic, for the patient can promptly indicate when sufficient has

been injected by informing the operator of discomfort felt in the side. Under an anæsthetic I consider it more than possible that the renal pelvis can be ruptured by excessive distension, for it is impossible to know when the right amount has been injected. If anæsthesia is necessary I recommend that the renal distension be postponed until the patient is again in full possession of his normal sensations.

Hydronephrosis.—Where there is a hydronephrosis I endeavour to gauge the degree of distension and inject an equal amount of collargol. It has not proved very satisfactory, for in the first place it is not easy to empty completely a hydronephrosis through a ureter catheter; and secondly, the collargol injected mixes with the urine lying in the pelvis or calyces, and produces dilution to a greater or less degree. Moreover, with an anæsthetic, even if one gauges the amount of urine obtained and injects an equal amount of collargol, it is usually far short of full distension of the renal pelvis. Fig. 7 shows a large right-sided hydronephrosis which comfortably held 180 c.c. of 10 per cent. collargol solution, together with a left-sided renal pelvis with a capacity of 15 c.c. No anæsthesia was used. Figs. 8 and 9 also show injections without an anæsthetic. Fig. 10 is an interesting radiogram (taken without general anæsthesia), for there is not only a hydronephrosis, but the pelvis shadow is separated from the ureter catheter, which was impregnated with bismuth. Apparently, although the patient did not complain of any colic, the renal pelvis was in a state of spasm, which accounts for the interruption of the shadow. Injections of collargol in suitable cases of pyelitis are, I am convinced, productive of much good.

Neoplasms.—Pyelography has proved useful in the diagnosis of early neoplasms. If a growth is in one of the kidney poles a tilting of the organ occurs and pyelography demonstrates an alteration in the position of the renal pelvis. Again, the shadows of the calyces are sometimes very much elongated, due to encroachment of the growth, and this flattening out is suggestive of a renal tumour.

Sacculi of the Bladder shown up with Barium Sulphate Solution.

In some cases it is extremely useful to get a radiogram of the bladder to show up a diverticulum or a sacculus. To do this with collargol solution is almost prohibitive on account of the cost. I made some experiments with suspensions of barium sulphate, which was held in suspension by oleum amygdalæ dulcis. A solution of 10 per cent. of collargol in a test-tube was compared with various strengths of barium sulphate suspension. I found that the suspension which corresponded nearest to the collargol solution was one made up of two parts of barium sulphate suspended in 10 parts of oleum amygdalæ dulcis. See Fig. 11 for a radiogram of the different solutions.

In a cystoscopic examination of a case I noticed sacculi of the bladder. I distended this bladder with a pint of the mixture mentioned—i.e., two parts barium sulphate and 10 parts of oleum amygdalæ dulcis, and Fig. 12 shows the radiogram obtained. On one side of the pelvis are two sacculi. After the patient had emptied his bladder I cystoscoped him and found that all the barium sulphate had been voided. I would not care to take the responsibility of injecting this mixture into the renal pelvis, but probably before long a satisfactory medium will be introduced which will enable us to dispense with the expensive collargol solution.

The radiograms were taken by Dr. W. D. Arnison, of Newcastle-upon-Tyne.

Newcastle-upon-Tyne.

PROTEIN METABOLISM DURING STARVATION AND AFTER THE ADMINISTRATION OF MILK PROTEIN.[1]

BY GUSTAV MANN.

(*From the Physiological Laboratory, Tulane University of Louisiana.*)

THE question of protein metabolism during starvation and after the administration of albuminous foods is one so full of difficulties that all means should be employed which promise to throw some light on this question. Curiously enough, the apathy towards physiological histology has resulted in not a single paper having been produced in which actual observation is substituted for speculation. How little the question of protein metabolism is understood, and how wild theories may become, is especially well seen when dealing with explanations of Abderhalden's test for pregnancy.

Under normal conditions, in both the male and the female, when the amino-acids resulting from the digestion of protein food are placed at the disposal of all the cells of the body through the blood stream, the competition for these acids will be proportional to the needs of each cell, and also proportional to the capacity each cell has of incorporating the amino-acids. As long as a cell is able to compete successfully against its fellow cells, so long will it thrive; when the competition becomes too keen, then the cell dies, undergoes autolysis, by which it is converted into free amino-acids, and thus it helps to feed its more vigorous fellow cells.

When no protein food is available a readjustment of the cells in the body takes place, in consequence of which those cells which have most work to do live on other cells which have less work to do, without leading of necessity to the death of the latter. Each normal cell, in such an environment as to be able to procure its protein food substances, will store the latter within itself or, to put it more correctly, will build itself up on larger proportions.

The protein which is not simply in the cell and in the tissue fluids, but which has been built up into the cell and which is specific for that cell, is in largest amount after a cell has just finished feeding, and this protein we may call the "total" cell protein. If a cell is given food at regular intervals of time then an adjustment takes place, in consequence of which a certain percentage of the total protein is made use of by each cell in the time which elapses between the end of the last meal and the commencement of the next meal. The protein which a cell loses in this way, either by providing for its own needs or for those of the body as a whole, we may call the "available" cell protein. If food be withheld for a sufficiently long time cells will die from starvation, notwithstanding the fact of there still being left a considerable amount of protein material surrounding the nucleus. That protein which cannot be made use of in the general

[1] In continuation of a paper published in THE LANCET of Oct. 19th, 1912, p. 1069, on the Changes induced in Blood by Feeding, by Professor Gustav Mann and Dr. John G. Gage.

economy of a protozoon or a metazoon may be called the "indispensable" protein.

What induces the autolysis of a cell, in consequence of which the "total" protein is reduced to the "indispensable" protein before death takes place? On the one hand, each cell in the body, struggling for its own existence, will try to absorb as much protein as it possibly can; on the other hand, each cell in the body has it in its power of digesting every other cell ereptically—and may be tryptically—and therefore when we are dealing with a normal individual we have before us a community in which there is a certain give-and-take; if one cell takes too much it is made to disgorge, and if another cell has too little its auto-digesting enzymes become extracellular, they enter the blood stream, and digest those cells which are supplied most abundantly with protein substances. The cells richest in protein will be those individuals which, for the time being, play only a passive part in the general economy—e.g., in a starving animal kept at rest the skeletal muscles are passive, and they lose ten times more in weight than does either the heart muscle or do the respiratory muscles. The heart and respiratory muscles are kept going at the expense of the skeletal muscles.

When we study pregnancy we are dealing with an originally abnormal state, for the fœtus is only a parasite, which during evolution has developed a firmer and firmer hold on its host, the mother. Under these conditions it is readily seen that the original tendency of the mother will be to void the fœtus, while the tendency of the fœtus will be to implant itself more and more firmly. When the mother takes food her body cells will tend to absorb all the nutriment, and therefore the fœtus would have to starve if it were not for the digesting enzymes which are circulating in the blood stream during pregnancy, and which make it impossible for the mother to store protein at the same rate as she can do in the non-pregnant state. It is most natural to assume by analogy that digesting enzymes are liberated by the growing, always hungry fœtus, as ferments are normally set free during the fasting condition of every one of us.

The formation of digesting enzymes which occurs during pregnancy I believe also to occur during fever, as fever is always accompanied by a general increase in nuclear activity and increased nitrogen excretion.

In a previous paper in THE LANCET (On the Changes Induced in Blood by Feeding) Dr. Gage and I described alterations which are induced in the circulating blood by starvation and by the subsequent administration of milk protein in the form of sanatogen. We showed that 30 hours' inanition in man is sufficient to diminish the surface tension of leucocytes, and that in starving frogs the red blood corpuscles possessed a lessened affinity for acid dyes. The most marked change, however, was the increase in the nucleo-protein material of the nuclei of leucocytes, lymphocytes, and of the red corpuscles of the frog.

The conclusions set forth in the present paper are based on three distinct sets of experiments made with sanatogen, which gave us such marked changes in the blood. The first of these experiments was made on 100 frogs (the same which were used in the investigation of the changes in the blood) which were not fed during the winter months, and which in the spring were kept for one additional week under observation to prevent any food reaching them. Of this batch of frogs 6 in number were used as controls; each of the remaining frogs received about 1 gramme of sanatogen, the standardised food which it was found convenient to select for these experiments. The frogs were killed at ten-minute intervals during the first hour; then at intervals of one hour up to 30 hours; and finally at six-hour intervals up to 96 hours. The second set of frogs were starved for two months; 3 frogs were kept as controls, while each of the others was given about half a gramme of sanatogen. The fed frogs were then killed after 1, 3, 5, 7.30, 10.20, 12, 24, 38, two 48, 63, 87, and 112 hours. These 116 frogs of the first two experiments were killed, their organs removed as quickly as possible and placed at once in picro-corrosive sublimate formaldehyde fluid for one week. The third experiment was made on frogs which had also been starved for two months; one was kept as a control, while the others, having been fed on about half a gramme of sanatogen, were killed after 2, 4, 6, 7, 18, 24, 38, 63, and 175 hours. Each frog, as soon as it had been killed, had its organs fixed in a 5 per cent. solution of double-salt of corrosive sublimate and potassium bichromate ($Hg\,Cl_2 + K_2Cr_2O_7$).

After each tissue had remained for the same length of time in the fixative it was placed in 50, 75, 85, 90, and 95 per cent. spirit, till all the frogs of each batch had been killed, and then the last frog killed was kept along with the others for one week in 95 per cent. spirit so as to level up a possible action of the alcohol on the tissues. All the tissues were then taken for exactly the same length of time through absolute alcohol; equal parts of absolute alcohol and carbon disulphide; three changes of carbon disulphide; equal parts of carbon disulphide and paraffin (60° C.), and three changes of pure paraffin. The tissues were then cast in the following manner: Corresponding tissues of all the frogs were embedded in one block, thus:

C	3	10.20	38	87
C	5	12	48	112
1	7.30	24	63	

where C stands for the control specimen and the figures indicate the length of time in hours after feeding. It will be seen that by this arrangement any given tissue of every frog is cut at the same time, and that therefore in each section every piece of tissue is of exactly the same thickness as are the other pieces, and that therefore all the sections of tissues fixed at different times after the feeding will receive exactly the same treatment on being stained, or differentiated, or dehydrated or cleared. The arrangement of the tissues as indicated above makes it easy to compare sections both in vertical order, when the interval of time is small, or in horizontal order with greater intervals of time. The precautions just detailed it is necessary to take, as otherwise one is very apt to overlook minute changes in the cytoplasmic and nuclear structures.

For comparative work it is best to cut sections 10 μ thick. As a rule, half a dozen slides of each tissue were stained simultaneously by the same method, and then the slides were differentiated subsequently to varying degrees so as to determine the relative acidity and basicity of the different constituents. For routine staining I used for nuclear structures, especially the nucleo-protein radicals, M. Heidenhain's iron-alum method thus: the sections were mordanted in 2½ per cent. iron-alum for 24 hours; they were next rinsed in distilled water for 2½ minutes and stained for 24 hours in 1 per cent. hæmatoxylin; finally, they were differentiated in

0·5 or in 1 per cent. iron-alum instead of a 2½ per cent. solution, as the feebler solutions decolorise more uniformly and thereby prevent a too rapid decolorisation of the nuclei containing only slight amounts of nucleo-protein. While decolorising the slides should be constantly moved. In studying gland cells Ehrlich's triacid stain gave good results; for determining basicity 0·5 per cent. toluidin blue is good, and if no differentiation with alcohol is contemplated I use a 1:1000 toluidin blue and examine with a Zeiss D* lens. For general all-round staining I have found my long methyl-blue-eosin method to give the best results, as this method allows us not only to study cytoplasmic changes in individual cells, but also permits of a thorough investigation of alterations in nerve fibres, in the matrix of hyaline cartilage and of the cornea, and in the white matter of the cord and the brain and the peripheral nerves.

In my investigation special attention was paid to the epithelium of the conjunctiva, the cornea proper, the retina, the cartilaginous capsule of the eye; the brachial nerve with its spinal and sympathetic ganglia[2]; the cerebrum, thalamus, midbrain, medulla, and upper part of the cord; the alimentary canal from the œsophagus to the anus; and the thyroid gland, the liver, and the pancreas. The kidneys and the suprarenals were not studied by me, as these organs are being specially investigated in my laboratory by Dr. H. W. E. Walther from the secretory point of view.

Generally speaking, the somatic cells of all higher animals may be divided into two classes, the first of which includes all gland cells and nerve cells, while the second class is represented by the protective coverings and the organs of locomotion—namely, muscles, tendons, and bones. The blood occupies a position somewhat intermediate. My reason for this classification is as follows. In the introductory remarks it was pointed out that in each cell there is an "indispensable" moiety of protein. This latter includes all secretions formed by gland cells and by nerve cells; thus, if the stomach or pancreas cells once have formed zymogen granules, then these granules cannot be made use of for the general maintenance of the animal, and nothing but a specific stimulus will set the secretions free. However much the cytoplasm between the zymogen granules is reduced, the zymogen itself undergoes no apparent diminution in starvation. Similarly, in nerve cells, when the Nissl substance has been once formed, and it is quite immaterial whether the latter remains in the nucleus, as in the nuclei of the rods in the retina, or is excreted into the body of the cell, as in all other mammalian nerve cells—nothing will call forth a diminution of the Nissl substance except functional activity, for I have found months of starvation in the frog and three weeks' starvation in the rabbit to leave the Nissl substance undiminished if care be taken to let neither light, sound, odours, temperature, or touch influence the animal experimented on. From the teleological point of view, which is the same as that of common sense, if glandular secretions, or if Nissl's substance, were used up for purposes of general economy, then on food being administered to a starving animal the food could not be digested, nor would the nerve cells be able to bring about movements of muscle fibres or of gland cells.

[2] I found constantly a definite sympathetic ganglion on the brachial nerves of the North American frogs.

On the one hand, we find therefore a conservation of potential energy in the starving cells; on the other hand, a constant loss of energy by the liberation of albuminous compounds owing to a continual secretion of the one or more digesting enzymes.

This explanation will account for the rapid diminution in the amount of "available" protein which takes place as soon as food is withheld. We know of both ereptic and tryptic enzymes being widely distributed over the body, and it must be these or analogous enzymes which bring about the liberation of amino-acids, making it thereby possible for one organ to nourish other organs—for example, ordinary skeletal muscle to nourish the heart &c.,[3] The loss of protein brought about by auto-digestion must be made good, and therefore it is necessary to save the "available" protein as much as possible by the administration of readily digestible albuminous food, such as caseinogen, in sufficiently large quantities to avoid an undue diminution of the "available" protein. The average amount of protein should be 1 gramme for every kilogramme of body weight per day, and in cases of nervous debility this amount should be doubled. The fact that after the administration of milk proteins there is produced within at the most two hours a demonstrable increase in the density of the cytoplasm of the most diverse cells shows, however, that in addition to the disruptive or digesting cell enzymes there must be at work constructive or "coagulating" enzymes; and it shows, further, that the maintenance of the cell is dependent on the balance between the disruptive and the constructive enzymes.

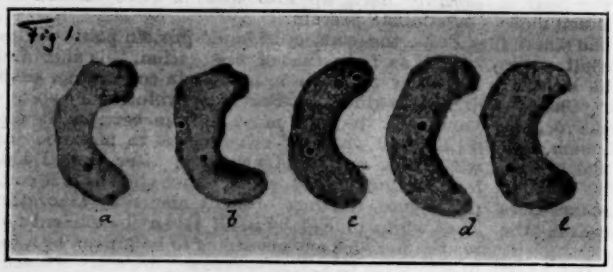
After the administration of the sanatogen, in addition to the changes in the cell bodies just alluded to, the next most striking change is the increase in the affinity for basic dyes shown by the cell nuclei. This increase is partly due to an actual increase in the size and the number of the chromatic elements, consisting of nucleo-protein, and partly due to the nuclear sap or nucleoplasm—forming the greater bulk of the nucleus—developing a greater affinity for basic dyes, which means becoming more acid itself.

The two facts just mentioned are brought out by the illustrations (Figs. 1 to 7), which are partly exact representations of cell nuclei, magnified 1000 linear diameters, partly diagrams showing exactly the amount of change in the intensity of staining produced by feeding with sanatogen. Fig. 1 represents nuclei of the cornea seen from before backwards as each eye was cut in the coronal plane; *a* and *b* are taken from the two unfed controls, *c* represents the increase in the nucleo-protein three hours after feeding, *d* five hours after feeding, and *e* 89 hours after feeding. Fig. 2, *a*, shows two unfed nuclei from the cartilaginous sclerotic coat, and *b* two fed nuclei three hours after feeding.

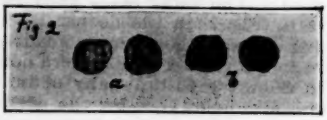
Fig. 3 shows the changes in the heart muscle; *a* and *b* represent the isotropous and *c* and *d* the anisotropous substance; *a* and *b* after staining with my long methyl-blue-eosin method, and *c* and *d* after staining with iron-alum-hæmatoxylin; *a* and *c* are the unfed hearts, and *b* and *d* hearts two hours after feeding. Fig. 4, *a* to *f*, shows the nuclei of the heart muscle in different stages of contraction and also in the uncontracted state. It is exceedingly difficult to find corresponding trabeculæ in two different hearts, but as to the change in the nuclei

[3] Experiments are under way in my laboratory to determine whether ferments are more abundant during starvation.

there cannot be any doubt; *a*, *b*, and *c* are from the unfed, and *d*, *e*, and *f* from a frog fed two hours previously. Fig. 5 shows the change produced in the conducting parts of the nervous system, especially in the non-cellular part; *a* is the unfed and *b* the fed condition five hours after feeding. Fig. 6 shows the nuclei of ependyma cells with their long tail-like processes pointing toward the central canal of the spinal cord or towards the ventricles; *a*, *b*, and *c* are unfed; *d* is three hours after feeding, *e* and *f* 12 hours, *g* 24 hours, and *h* 68 hours after feeding. Fig. 7 shows both the isotropic and the anisotropic parts of the muscle fibrils losing approximately 25 per cent. of their stain ability when compared to normal non-starved animals (see Fig. 3). It was further seen that two to three hours after feeding on milk protein the muscle fibrils show a marked recuperation, as evidenced by the sarcostyles staining much more deeply, both after iron-alum-hæmatoxylin staining, which stains the anisotropous substance, and after my long methyl-blue-eosin method, which stains both the isotropous and anisotropous substances. In all the fed frogs, within one hour after feeding

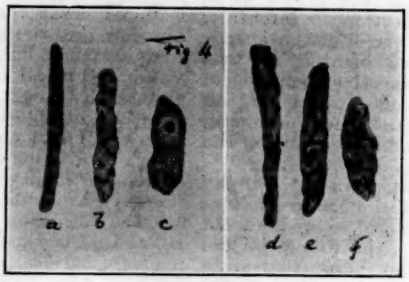


Showing nuclei of the cornea in unfed controls and after feeding.



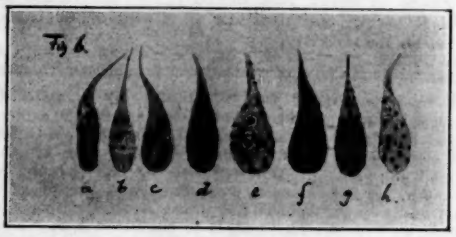
Nuclei from the cartilaginous sclerotic coat.

Heart muscle.



Nuclei of heart muscle.

Conducting part of nervous system.



Nuclei of ependyma cells.

Small nerve cells from the midbrain.

small nerve cells from the midbrain, *a* from the unfed, and *b* from a frog five hours after feeding.

The above illustrations show that after feeding on milk protein—

1. Cells living away from the actual blood stream—for example, the corneal cells (Fig. 1) and cartilage cells (Fig. 2)—will benefit within a very short time after the administration of food, as judged by the increased activity of their nuclei.

2. During prolonged starvation the heart muscle undergoes marked atrophy, which shows itself in the nuclei of the heart muscle (Fig. 4) showed a distinct change, the nucleo-protein content was increased, and the nucleoplasm stained much more deeply.

Whether the nuclear activity is antecedent to the increase in the isotropous and anisotropous substances or not I have not been able to determine definitely, and this also holds good for all the other cells in the body, but my general impression is that nuclear activity precedes cell activity.

3. Comparing sections of the nervous system of

starved and of fed animals, stained in exactly the same way, by holding the microscopic slides (especially those stained by my long methyl-blue-eosin method and well differentiated) at arm's length, the sections of the brain, medulla, and spinal cord of the starved animals appeared much paler than did the sections of the fed animals. (Fig. 5.) This difference is much less evident when the sections are stained deeply or when they are compared with one another under the low power of the microscope. In sections stained with toluidin blue, iron-alum-hæmatoxylin, or Ehrlich's acid hæmatein, with a Zeiss C lens, the nuclei of the ependyma cells (Fig. 6), lining the ventricles and the central canal of the spinal cord, were always much more deeply stained in the fed frogs than in the starved ones. The same holds good for the small nerve cells (Fig. 7) in the deeper layers of the anterior and the posterior corpora quadrigemina.[4] Changes in the larger nerve cells were not so unequivocal as to allow me to draw any definite conclusion, and this also holds good for the spinal and the sympathetic ganglia, because functional activity tends to diminish the Nissl granules, while feeding increases nuclear activity and the tendency towards the formation of Nissl's substance.

Marked changes, similar to those in the heart (see Fig. 4), were seen, however, in the brachial nerves, especially in the nuclei of the sheath cells forming the medullary covering to the axis cylinders. Within one hour after feeding the nuclei commenced to swell and to stain more intensely, making it probable that the nuclei of the sheath cells have to do with the nourishment of the axis cylinders, especially as the connective-tissue nuclei of the epi- and the peri-neurium also showed an increased affinity for basic dyes in the fed specimens, but to a much less extent than did the nuclei of the sheath cells.

After iron-alum-hæmatoxylin, and also after my long methyl-blue-eosin method, the brachial nerves of starved animals stained more feebly than did those of fed ones (see Fig. 5); the difference was not very marked, but notwithstanding this quite distinct. The increased depth of staining of the nerves in the fed frogs showed that a building-up process goes on in the nerves after the administration of albuminous foods.

As the questions involved are so important I submitted my slides on the heart and on the nervous system to my colleague, Professor Irving Hardesty, who after a careful examination agreed with my findings. I wish to use this opportunity to thank Professor Hardesty for the courtesy shown me.

General conclusions.—Starvation leads invariably to a rarefaction of the cell body and its processes, as is evidenced by the diminished staining power of the cell plasm of all cells in the body. Thus in all starved animals the contractile elements of the heart, both the isotropous and the anisotropous, undergo an atrophy amounting to 25 per cent. of the normal state.

The nervous system also suffers during starvation to a much greater extent than ordinary measurements by weight would lead one to suppose. This loss, if stimulation of the nervous system is eliminated, is restricted to the conducting paths, as is proved by both the nerve cells (apart from Nissl's substance) and also the nerve fibres staining much less deeply in starved than in fed animals. That Nissl's substance is diminished during functional activity I have proved previously.

Feeding with sodium caseinogenate containing 5 per cent. of sodium glycerophosphate it is possible within two hours to get a definite increase in the nuclear activity even of cells which are not supplied directly by the blood, as, for example, in the cornea and in cartilage. This milk protein further leads to an increased depth of staining of the heart muscle and of nerve fibres, and this deeper staining it is impossible to explain in any other way, except to assume that the amino-acids liberated by the digestion of the caseinogen are actually built up into what I have termed the "available" protein.

From the conservation of protein point of view, as well as from that of restoration, it is absolutely necessary to have a non-purin-containing, easily digestible albumin. From the evolutionary point of view milk protein must be the best, as it took millions of years of elimination to make it into what it is now; and yet, time after time, I have found white of egg given to invalids as if it could make good the loss brought about by starvation. That white of egg by itself is an insufficient food for the nervous system seems to be proved by a fact to which Dr. E. A. Eustis casually drew my attention—namely, that the beri-beri neuritis of birds is not cured by the white of egg, while it is cured if the yelk be given. Caseinogen with its phosphorus content and other radicals is to the mammal what the yelk and the white of egg together are to the fowl. Neither of these foods contains purin, but, being mammals, let us give in fevers and in all cases of debility milk protein in preference to eggs, especially as erepsin by itself is capable of digesting caseinogen. Let us further give a minimal amount of the fats of milk, just sufficient to bring the calories up to 3500 or 4000, especially when we are dealing with adults, and thereby hasten absorption of the amino-acids and also the liberation of waste nitrogen by the liver. Milk sugar, because of its slow conversion into its monosaccharides, and therefore steady supply of potential heat, should be left for calorific purposes in combination with caseinogen, and we should endeavour to get the full calorific value of the food, beyond the 800 calories got from the caseinogen in cases of fever and debility, by administering milk sugar in the first instance and other carbohydrates secondarily.

New Orleans.

[4] The posterior corpora quadrigemina of the frog I discovered about ten years ago.

ROYAL COLLEGE OF SURGEONS OF ENGLAND: LECTURE ARRANGEMENTS.—The following are the subjects of the Hunterian Lectures for 1914. Mr. Hastings Gilford will deliver two lectures, on Feb. 2nd and 4th, on Infantilism; Mr. E. W. Hey Groves, one lecture, on Feb. 6th, on Experimental Production and Treatment of Fractures in Lower Animals; Professor A. Rendle Short, one lecture, on Feb. 9th, on Changes in the Blood in the Causation of Surgical Shock; Mr. H. Beckwith Whitehouse, one lecture, on Feb. 13th, on the Pathology and Causation of Idiopathic Uterine Hæmorrhage; Professor Arthur Keith, six lectures, on Feb. 16th, 18th, 20th, 23rd, 25th, and 27th, on the Evolution, Anatomy, and Diseases of the Anthropoid Apes; Mr. C. Mansell Moullin, one lecture, on March 9th, entitled Further Observations upon the Biology and Classification of Tumours. The Arris and Gale lectures will be delivered as follows: one lecture, on March 2nd, by Dr. David Waterston, on Some Recent Researches in Human Development; and two lectures, on March 4th and 6th, by Dr. F. Wood Jones, on the Morphology of the External Genitals. All the above lectures will be delivered at 5 o'clock P.M. precisely at the College, Lincoln's Inn-fields, W.C.

THE TOLERATION OF ARSENIC BY THE HUMAN SYSTEM.

BY H. G. A. HARDING, A.I.C., F.C.S., &c.,
TEACHER OF CHEMISTRY, UNIVERSITY OF SYDNEY AND SYDNEY TECHNICAL COLLEGE; ANALYST UNDER PURE FOOD ACT, 1908, ETC.

THE toleration by the human system of arsenic has been so much discussed during recent years, and such various amounts have been stated, in many cases apparently without the slightest authenticity, that I decided during 1912 to conduct some experiments myself, the results of which could be placed on record with the confidence of being authentic. The experiments are summarised in the following.

It has been very generally accepted that the safe limits in dosage of arsenious oxide, As_2O_3 (white arsenic), lie between $\frac{1}{60}$ gr. and $\frac{1}{10}$ gr. (*vide* various pharmacopœias). A start was therefore made by taking $\frac{1}{60}$ gr. doses thrice daily immediately after food, it being well known among medical men that even small doses of arsenic taken on an empty stomach may upset the system. After taking this quantity in this manner for four days, during which no effect, either beneficial or injurious, was felt, estimations were made of the quantity of the drug passed in the urine. The daily dose totalled $\frac{3}{60}$ gr., and analysis of an aliquot part of the urine passed in 24 hours yielded $\frac{1}{60}$ gr. per diem, thus showing $\frac{2}{60}$ gr. per diem otherwise disposed of.

At this stage the urine was otherwise normal. The dose was now gradually increased to $\frac{1}{60}$ gr. thrice daily and then to $\frac{2}{60}$ gr. and $\frac{1}{15}$ gr. The drug now showed in every lot of urine passed, and careful estimations of the amounts present denoted that a fairly even percentage was eliminated through this channel, the average being 25 per cent. to 30 per cent. of the amount of the drug consumed. The quantity of arsenic was always estimated by retaining the whole of the urine passed in 24 hours and taking of this an aliquot part. At this stage two further distinct experiments were made.

A. Doses of $\frac{1}{15}$ gr. were taken on an empty stomach thrice daily. The result was that the system became irritated and a distinct feeling of discomfort was experienced lasting over two hours. Estimations of the amount of arsenic now showed a marked increase, 75 per cent. of the amount consumed appearing in the urine. This was discontinued after two days.

B. A comparatively large jump was made in the amount of arsenic taken, $\frac{1}{4}$ gr. being taken as a single administration. This also produced irritability and uncomfortable abdominal pains of a more or less severe character. The effect lasted 4½ hours and then passed off slowly. The whole of the urine passed during the subsequent 24 hours was collected, and on analysis yielded $\frac{1}{12}$ gr. arsenic.

Recourse was now had again to the old dosage of $\frac{1}{15}$ gr., and after the system became quite normal again the dose was increased to $\frac{1}{12}$ gr., then to $\frac{1}{10}$ gr., $\frac{1}{8}$ gr., and to $\frac{1}{6}$ gr. By thus going gradually to $\frac{1}{6}$ gr. it was found that the amount was quite well tolerated without any discomfort or marked changes, and, moreover, the average percentage of the drug appearing in the urine was maintained. At this stage, but *not before*, the urine began to depart from normal. The amount of urea increased, the colour was always a little darker, the potash salts increased, and there were distinct traces of broken-down tissue present. The experiments were pushed further ahead, and the dose, still thrice daily after food, was increased to $\frac{1}{4}$ gr., $\frac{1}{3}$ gr., and $\frac{1}{2}$ gr. The urine became correspondingly more pronounced in the directions set out above, but there was no other change, save that it was found desirable or necessary to keep longer on each new increased dose before passing to the next highest.

Proceeding still onward the doses were increased to $\frac{2}{3}$ gr., $\frac{3}{4}$ gr., $\frac{5}{6}$ gr., *1 gr.* At this point it was felt in every way that the limit was being approached. Tissue became more apparent in the urine, though the percentage of arsenic remained at the average observed during the administration of the smaller doses. The potash salts and urea were still further increased. It was found, too, that the drug could only be taken with comfort if dry foodstuffs were consumed at meals—if liquid beverages were partaken of, or if the food was of the sloppy order, the administration of the grain dose of As_2O_3 produced immediate discomfort and burning pains in the abdomen, lasting 40 minutes to 1 hour and acting as a distinct aperient within 3 hours.

The next and highest dose reached was 1½ gr., which produced irritability and distinct and lasting discomfort every way it was taken and all precautions notwithstanding. Its aperient properties amounted consistently to almost purging, whilst the urine became more abnormal in the directions already indicated. Before taking this 1½ gr. dose I felt well in every way, and had increased 2½ lb. in weight. I now discontinued the drug altogether, but immediately felt a fulness after meals and suffered general derangement for several days. The thought then struck me to keep on with the drug, but to decrease the amount daily. This I did accordingly, and in one week was able to reach ½ gr. only, and in less than another week dispensed with the arsenic altogether without any of the symptoms above mentioned, whilst the urine quickly regained normal again. Arsenic was, however, detected qualitatively in all samples of urine for 11 days after consuming the last dose of arsenic. My bodily weight again went to normal, as did the urine and all other functions. I felt well, and my health was quite normal again in every detail, except in one important particular, which must be recorded. It is this. Before the treatment I had not been in the least susceptible to nasal or any other form of catarrh, and, in fact, my opsonic index to that disease had been particularly high. After the treatment, however, a great change in this direction took place, for my opsonic index was continually low, and I was afflicted with nasal catarrh, or "cold in the head," surprisingly regularly every 21 or 22 days. The regularity of these attacks was so marked that I drew several of my medical friends' attention to it. The following mixture gave me most relief, and the attacks passed off suddenly within about 72 hours: Antipyrin, gr. iii.; sod. salicylas, gr. v.; chlorof., m. i.; tr. quininæ ammon. ad ℥ss. These attacks occurred in all 14 times at intervals of three weeks, and then after a rather worse one than usual ceased altogether, and for five months I have been quite free and normal, and my opsonic index has also gone up. There is no doubt in my mind that the attacks were brought on absolutely by the treatment.

The weighings of As_2O_3 for the doses taken were checked either by Mr. F. J. Shephard, M.P.S., pharmacist, or by Mr. W. J. C. Ross, B.Sc., F.G.S., lecturer in chemistry, to whom my thanks are due.

Sydney.

Clinical Notes:
MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A SIMPLE AND RAPID METHOD OF ADMINISTERING NEOSALVARSAN.

BY DOUGLAS J. GUTHRIE, M.D. EDIN.,
LATE CLINICAL ASSISTANT AT THE ST. LOUIS HOSPITAL, PARIS.

ALTHOUGH neosalvarsan is so extensively employed in the treatment of syphilis, there appears to be no general agreement as to the best mode of administration. In this country it is usually dissolved in a large quantity (200 to 300 c.c.) of saline solution and injected intravenously. A much simpler method is that which was adopted at the St. Louis Hospital, Paris, over a year ago, and has since been in daily use there. It consists in the employment of a concentrated solution of the drug in distilled water. The technical details are as follows. The patient's arm is prepared in the usual manner. 10 c.c. of *cold boiled* distilled water are measured into a sterilised beaker, and the required dose of neosalvarsan, which may range from 30 to 90 centigrammes, is then added. The resultant solution is practically isotonic with the blood and may be safely used for intravenous injection. The only apparatus required is a glass syringe of 10 c.c. capacity. A short piece of glass tubing, containing a plug of sterile gauze, is fitted to the nozzle of the syringe in place of the needle before the solution is aspirated from the beaker. By this simple expedient the solution is filtered and the risk of injecting undissolved particles of the drug is obviated. The filter is now replaced by the needle and the injection proceeded with. As the needle punctures the vein dark blood will be observed flowing into the syringe. At this moment an assistant removes the constricting band from the arm and the piston is slowly pressed home. The whole procedure may be carried out in about two minutes, and my personal experience of it in practice has been in all cases most favourable.

The following advantages may be claimed for the method: 1. No saline solution is required, but simply a small quantity of distilled water which has been recently boiled and allowed to cool. 2. The apparatus is of a simple nature and may be easily and completely sterilised by boiling. 3. The rapidity of the method lessens the risk of any oxidation taking place.

Edinburgh.

A NEW TREATMENT FOR RINGWORM.

BY C. HUGHES FOLEY, M.B., B.CH. R.U.I.

RINGWORM is such an intractable disease, such a bugbear to schoolmasters and parents of children attending school, that any quicker and more efficient treatment than that known to us at present would be welcomed. Hence I am glad to bring before school medical officers and others a very simple and efficient treatment which leads to rapid cure.

The part being first washed with a strong solution of sodium bicarbonate, is next swabbed with a piece of lint moistened with spt. ætheris—to remove grease. It is next dried, painted with tinct. iodi, and an ethyl chloride spray immediately applied. I find it best to work with a pair of ethyl chloride tubes in each hand, as I thus cover a larger area in quicker time. The deeper the disease process the longer the spray must be applied. I spray until the integument gets china white, then I cease. It will be found that in from 24 to 48 hours the patch of ringworm has become quiescent. Next little tiny spots should be looked for and treated in a similar manner, when they also disappear in from a few days to a week. In ringworm of the scalp three or four applications of iodine and spray are required, but on the face or smooth surfaces one application suffices.

I have succeeded in curing ringworm of months' standing in one week by this method, and it has never failed me since I first thought it out last year. In most of my cases the patients were infected by handling cattle and calves. I should be glad to hear of the experience of others, whom I would urge to try it.

Ardrahan, co. Galway.

REDUCTION OF SHOULDER DISLOCATIONS.

BY JULIUS CÆSAR, F.R.C.S. IREL., &c.

THAT all dislocations of the shoulder are troublesome, and at times impossible of reduction without an anæsthetic if the routine as set forth in works on surgery be followed, will, I think, be admitted by all surgeons who have had any experience in these cases. Taking this view of the matter I submit for the consideration of the profession a practice I have carried out for the past 25 years with uniform success in those forms of the dislocations which have come under my care—viz., subglenoid, subcoracoid, and subscapular; of subclavicular I have had no experience. I have reduced these dislocations in the feeble youth of 15, the muscular carter and the ex-soldier with equal facility and without giving rise to the least pain or anxiety as to injury to vessels or nerves; and have carried out the practice on the sea-beach and the road as readily as in my surgery. The only adjunct required is the help of a third party to control the sound arm.

My mode of procedure is the acme of simplicity, and is as follows. Having divested my patient of all clothing necessary—it is not always requisite to remove the vest and shirt—I place him on the ground in a sitting position and grasp the wrist of the injured side, the third party doing the same with the sound one. We then raise both arms straight above the head, taking care to keep them parallel, and extending them upwards till the patient is just raised from the ground, at which point a click is heard and felt and the dislocation is reduced without further manipulation, except that occasionally in cases of subscapular dislocation it may be necessary to slightly rotate the arm from right to left in the case of left and from left to right in that of the right arm. These movements are, of course, carried out during extension.

Ilchester, Somerset.

GARDEN CITIES AND TOWN PLANNING ASSOCIATION.—The annual meeting of this association will take place at the Carpenters' Hall, Throgmorton-street, on Feb. 16th, at 4 P.M. It is proposed to deal with the economic aspect of the true garden city scheme, and a brief lantern lecture will be given illustrating the position of the garden city movement at the present time. Cards of invitation to the meeting can be obtained from the secretary, 3, Gray's Inn-place, Gray's Inn, W.C.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SURGICAL SECTION.

Nephropexy and its Results.

A MEETING of this section was held on Jan. 13th, Mr. G. H. MAKINS, the President, being in the chair.

Mr. G. PERCIVAL MILLS opened a discussion on Nephropexy and its Results. He said that his paper was based upon an attempt to investigate and impartially to consider the results of nephropexy by following up and examining a series of cases operated on by various surgeons in the General Hospital, Birmingham. The results fell into two sections: A, the mechanical results; and B, the functional results. A. The mechanical results were shown in the following table:—

	Fixed high (per cent.).	Fixed low (per cent.).	Relapsed (per cent.).
(*a*) All cases	53	23	23
(*b*) Fixation to rib + capsular suspension sutures	73	0	26
(*c*) Suspension sutures only ...	62	12	25
(*d*) Suture to muscles of loin ...	12	75	12

He said that the superiority of operations *b* and *c* was obvious from these figures, for though *d* showed fewer relapses than did any other method, it usually resulted in a low fixation associated with a bad functional result. Of cases in which a fairly efficient operation had been performed two years ago or less, 23 per cent. were found to be relapsed; of cases similarly operated on three and four years ago 28 per cent. were relapsed. The great majority of relapses therefore occurred during the first two years. B. The functional results were recorded entirely from the statements made by the patients themselves, and had been tabulated in such a way as to indicate, if possible, the class of case in which operation was likely to be successful. The gross results were thoroughly bad, showing only 33 per cent. of cures. A class of case characterised by chronic lumbar pain only, unassociated with any neuroses, gave a rather better result—i.e., 50 per cent. of cures. On the other hand, in those cases in which the lumbar pain was associated with general symptoms, such as headache, gastric discomfort, depression, or "nervousness," the percentage of cures fell to 9. The more the symptoms were confined to the affected loin, the more probable was a cure by nephropexy. A further analysis of the symptoms showed the possibility of grouping together a series of cases in which uncomplicated lumbar pain was *quite definitely relieved by rest in the horizontal position*. In this group 75 per cent. of the cases were cured, this being the best result obtained from any group of cases. On the other hand, in the group of cases in which uncomplicated lumbar pain was *not relieved by rest*, not a single case was cured by nephropexy. The tabulated results were as follows:—

Gross results (57 cases)	33 per cent. cured.
Cases with lumbar pain only (34 cases)	50 ,, ,,
Cases of lumbar pain + dyspepsia or some neurosis (21 cases)	9 ,, ,,
Cases of uncomplicated lumbar pain relieved by horizontal rest (20 cases)...	75 ,, ,,
Cases of uncomplicated lumbar pain unrelieved by horizontal rest (10 cases)...	None cured.

The following were his conclusions:—1. The general results of the operation of nephropexy were bad. 2. Nephropexy had very frequently been performed to relieve symptoms that were not due to movable kidney. This was proved by the persistence of the symptoms after a successful operation. 3. The symptoms due to a movable kidney were chronic lumbar pain of the renal type described, which was absolutely relieved only by horizontal rest. These symptoms, if present alone, were nearly always cured by nephropexy. 4. When lumbar pain was associated with neurotic symptoms, nephropexy rarely gave relief. 5. Nephropexy failed to cure cases of dyspepsia which were supposed to be due to obstruction of the duodenum by a right movable kidney (of five such cases in the series none were cured). 6. The indications for nephropexy in a case of movable kidney were as follows: (*a*) Intermittent hydronephrosis; (*b*) pain of the character described above; and (*c*) possibly in a few cases of Glénard's disease.

Mr. J. W. THOMSON WALKER said that there was probably no other operation where the results depended so closely upon the proper selection of cases as in that performed for movable kidney. When we spoke of late results we were entitled to ask for some account of the class of cases operated upon and what manner of operation was performed. He would discuss the question on these lines: I. What class of patients were operated upon? Leaving aside cases where a movable kidney was discovered and no symptoms were present (cases which everyone agreed should be left alone), there remained (*a*) those in which there were symptoms directly connected with the kidney, such as definite renal pain, hæmaturia, casts, albumin; and (*b*) those in which there were symptoms not directly referred to the kidney. This class admitted of further subdivision into: (1) Cases with gastro-intestinal symptoms and (2) cases with nervous symptoms. With regard to the first class of cases where there were symptoms, definitely renal in origin, operation should be performed, and the results, if the operation were successful in fixing the kidney, would be uniformly good. He had not had a single case in this class which did not lose all symptoms after operation. Turning now to the second class of cases. In those patients who complained of gastro-intestinal symptoms, these symptoms were due to dragging or to adhesion between the kidney and the duodenum and colon. Sir Arbuthnot Lane had pointed out, and Mr. Walker's experience was in entire agreement with what he said, that adhesions around the cæcum and colon might be a contributory cause in the production of movable kidney by dragging on that organ. We should therefore be very careful in these cases with gastro-intestinal symptoms that we did not operate on the kidney when the trouble was much more extensive, affecting the bowel primarily, and the kidney only secondarily. He had found that the cases in this class that were likely to do well after nephropexy were those that were benefited by rest in bed and were made worse by exercise. In the cases that showed nerve symptoms we were on even less firm ground. If we set aside those cases where pain definitely arose in the kidney, there was a large class of cases with movable kidney and a varying degree of neurasthenia. It was the practice of some surgeons to operate on these cases and to claim success in the treatment. It was the experience of others that operation in these cases was unsatisfactory, since the patient either retained all her symptoms or they recurred after a short period of time. His views coincided with the latter. For one success in a neurasthenic we saw many failures, and he believed that it was very rare for the symptoms to be abolished permanently. The test of rest might also be applied here, but it was not so reliable in this class. When we went a step further and recommended, as some surgeons did, the operation of nephropexy as a cure for insanity, he confessed that he had had no experience in such cases. II. The second cause of failure in the results of the operation of nephropexy lay in the method of operation. If one could judge by the numerous operations that were described for fixing the kidney, the attention of the profession appeared to have been principally focused on this aspect of the question. There were two questions that surgeons should seriously consider: (1) Did they wish to fix the kidney absolutely, or did they want to retain a certain degree of mobility of the organ; and (2) Were they correct in ascribing to low fixation the cause of their failures? First, in regard to absolute fixation. A kidney stitched high up under the diaphragm was not fixed; a kidney, the lower pole of which rested upon a shelf of peritoneum or fibrous tissue was not fixed. If nephropexy was done the object should be to fix the kidney completely. If any movement was allowed it was impossible to control the amount of movement or to be certain that the movement would not take place in some unexpected direction which would throw a strain on the vascular pedicle or the ureter and thus perpetuate the symptoms. In order to carry this out the muscles of the posterior abdominal wall should be prepared by dissecting away the loose areolar tissue, fat, and muscular sheath, and in order to do this a four or five inch incision was necessary. Only the posterior surface of the kidney should be stripped of its capsule. The anterior surface should not be stripped, for

the result was adhesion to the duodenum and colon, and from what he had already said this would be seen to be undesirable. Secondly, in regard to position. Most of the evidence he had seen produced to show that the low position of fixation was the cause of failure in some cases had been of the most flimsy character. So long as there was no dragging of the vascular pedicle and no twisting or other obstruction of the ureter—both of which could easily be guarded against—he saw no reason to believe that a kidney fixed lower down than its normal position need give rise to symptoms. If the kidney lay internal to the outer border of the quadratus lumborum there would be no danger of painful pressure by the clothes. If it was stitched to the lateral wall of the abdomen it might be in danger of being nipped between the ribs and iliac crest, as one author stated, but surely no reasonable surgeon would care to stitch it in this position. He had no objection to placing the upper stitch through the interspace above the twelfth rib. It had been urged against this that the pleura might be injured and that the mobility of the rib loosened the kidney. He had not seen any harm to the pleura result from such a suture. The twelfth rib was fixed, it did not move with respiration, being held rigidly down by the arcuate ligament.

Mr. WILLIAM BILLINGTON said that during the past nine years he had operated on upwards of 500 patients with nephroptosis, and had performed nephropexy about 800 times, both kidneys being dealt with at the same time in a majority of the cases. Careful records of his patients had been kept, and as only about 25 per cent. were hospital cases, it had been easier than usual to keep in touch with their subsequent progress. The operation performed was that described by him in 1907.[1] It had proved so satisfactory that no essential modification of the technique had appeared to be advisable. In his series there had been four deaths, an operative mortality of less than 1 per cent. To his knowledge only one kidney had broken loose again, and with the exception of one patient in whom a small hernia developed in the scar, and two or three who had subsequently suffered from pain in the back, there had been no unpleasant sequelæ. In estimating results several points had to be attended to and a distinction drawn between surgical failures and failure on the part of a successful operation to confer benefit on the patient. A successful operation was, of course, one which efficiently and permanently anchored the kidneys in their normal position and was free from unpleasant sequelæ such as pain, weakness of scar, persistent sinus, &c. Only when such surgical success had been obtained was it fair to estimate the value of the operation therapeutically. At this point he would emphasise the absolute necessity, if satisfactory results were to be uniformly obtained, of replacing the kidneys as nearly as possible in their normal position. He fully endorsed Goelet's statement that a kidney fixed in an abnormal position frequently caused more trouble than when it was freely movable. In estimating the results of nephropexy as regarded general health and working efficiency, he thought that we must clearly realise that when the operation was performed for other than local symptoms it did not make the patient well, but only made it possible for her to get well. Time and treatment on ordinary lines were essential before full restoration to health could be obtained. He claimed that in a very large percentage of properly selected cases nephropexy converted a previously incurable patient into a curable one. In the absence of definite local symptoms he never advised operation until satisfied that ordinary treatment had had a fair trial and had failed or had been followed by rapid relapse. Much unfair criticism of nephropexy had resulted from (1) failure to test the surgical success of the operation before judging of therapeutic results; (2) failure to realise that operation must be followed by careful and prolonged after-treatment; (3) failure to allow of a sufficient interval between the operation and the time at which it was safe to judge of its effects—for patients who had suffered for years from functional troubles and neurasthenia an interval of at least one year was essential before the full benefit could be expected; (4) the selection of unsuitable cases for operation. If the patient was to be made into a normal person he must at one time have been normal. In other words, the operation would not make a congenital degenerate normal. As to results, in his own series of cases he had made two different investigations: Two years ago for the purpose of an address before the Chicago Medical Society he inquired into the condition of 100 consecutive cases, Nos. 151 to 250 in his series; one full year of time elapsed in every case between the operation and the inquiry. He was successful in obtaining information about 87 of these patients, and from this he found that about 60 per cent. were well in the sense that they were leading ordinary lives and did not need medical attendance; 20 per cent. were considerably better; 10 per cent. were better; and 10 per cent. were no better. To test these results, on being asked to take part in this discussion, he submitted the following questions to 11 practitioners, 70 of whose patients he had operated upon: 1. Had the operation been a surgical success—i.e., had it efficiently and permanently anchored the kidneys and had it been free from unpleasant sequelæ? 2. Had the general resulting benefit justified the operation? His reason for doing this was that he believed that the medical man who had known the patient beforehand and had had charge of her afterwards was best qualified to judge of what the operation had achieved. In order, also, that an opinion should not be based upon too limited an experience, no practitioner was written to who had not observed at least three cases. His very best thanks were due to these practitioners for the great care they had taken in confirming general impressions by actually seeing or writing to their patients before answering his inquiry. A summary of the replies received was contained in a printed sheet he distributed. In a few words, it indicated that in all the 70 patients the operation was a surgical success; in only one case, that of a lady who had pain in her right side, was there any mention of after-trouble. Of the general benefit that had resulted, only 5 cases were reported as failures, while many were described as having been changed from chronic invalids into absolutely normal people. One final word as to the result of nephropexy in mental disease. He had operated upon about 30 lunatics, 50 per cent. of whom became sane subsequently and had remained so. Some of these patients had been operated upon seven or eight years ago. The results in some of these cases had been observed by Dr. A. Miller, superintendent of the Warwick County Lunatic Asylum, whose general view of the question was contained in the letter in which he answered Mr. Billington's inquiry and which was circulated. Recently at his request Mr. Billington had operated upon two patients under his personal care. One of these was now well and the other rapidly improving.

Mr. SEYMOUR G. BARLING said that he had operated upon about 20 cases of this condition. He always selected those in which there was a definite lumbar pain or renal symptoms. No success attended the operation if general symptoms alone were present.

Mr. HAROLD GARDINER presented the statistics of such cases as had been operated upon at Guy's Hospital for the four years 1909–12. There were 26 operations; 21 patients were relieved; 5 were not completely relieved. The results given, however, were only those within six weeks of the operation. The usual procedure was a simple stitching of the kidney to the posterior abdominal wall, but in a few cases the kidney was slung to the twelfth rib. Under both procedures the results were approximately the same.

Mr. H. BLAKEWAY summarised the results obtained at St. Bartholomew's during the same period. 62 patients had been operated upon, 59 female and 3 male. In 43 the right kidney was affected, in 9 the left, and in 10 both were movable. In only two had the operation been performed on both sides. In nearly all the kidney had been simply sutured to the posterior abdominal wall, but in a few also attached to the last rib. All were selected cases. The ages varied from 18 to 54 years. The duration of the symptoms covered periods up to 12 years. He had written to all the patients, had seen 14, and traced 21 by letter. One had died, 26 were not traced. The one fatal case was a woman of 33, who contracted pneumonia and died four months later from chronic interstitial pneumonia. Post mortem it was found that the kidney had not been fixed in a normal position. The results were satisfactory in 22, unsatisfactory in 12, and successful on one side in 1. Of the 14 seen, 6 were satisfactory as regards symptoms, but in 2 of these the kidney was still mobile; 8 were unsatisfactory. In all these 8 the kidney was movable, except in 1, in which it was fixed.

[1] Brit. Med. Jour., Nov. 27th, 1907.

Mr. RAYMOND JOHNSON read the statistics which had been obtained from St. Thomas's and St. George's Hospitals for cases operated upon during the same period. At St. Thomas's Hospital 53 had been operated upon; 32 of these had replied to inquiries, and the results were stated as follows: good, 16; fair, 4; poor, 2; temporary relief, 1; failure, 9. At St. George's Hospital 24 patients had been operated upon. Eight of these had returned for examination when requested; 3 were worse; 1 was much the same as before; 3 were slightly improved; 1 had completely recovered. The kidney had remained absolutely fixed in 1 only.

Mr. A. E. JOHNSON said that a mechanical cure was often more difficult than was supposed, and that all movable kidneys were not capable of fixation to the last rib. He showed pyelograms to illustrate this point. He thought that it was essential to obtain exposure of the pelvis and upper part of the ureter. The kidney should be fixed as high as possible and a bed should be prepared for it.

The PRESIDENT, in concluding the discussion, pointed out that there was no great variation in the results obtained from the different sources. The number of operations for this condition was probably decreasing in London. He had been struck by the large difference between the records of Mr. Mills and Mr. Billington, and as an explanation of this had been impressed by the point which Mr. Billington made of the importance of after-treatment, which was more readily procurable in private cases. The question occurred to him as to how far the after-treatment itself produced the results. He had not been in the habit of fixing the kidney so high as others claimed to do, and questioned the need for such high fixation. He did not think that an absolutely straight ureter was essential.

SECTION OF OBSTETRICS AND GYNÆCOLOGY.

Exhibition of Cases and Specimens.—Vaginal Epithelioma treated by Radium.—A Case of Double Ovariotomy.—Genito-mesenteric Fold of Peritoneum.

A MEETING of this section was held on Jan. 8th, Dr. W. S. A. GRIFFITH, the President, being in the chair.

Mr. GORDON LE showed a specimen of Fatty Change in a Fibromyoma of the Uterus. The specimen had been removed from a patient 54 years of age. The tumour had given rise to hæmorrhage, and the uterus was removed for that reason. The tumour lay in the posterior wall of the uterus. It was encapsulated, and appeared to be a fibromyoma with yellow streaks and yellow homogeneous areas scattered throughout it. Microscopically it showed a fibro-muscular tissue surrounding numerous spaces containing fat. There was no degeneration of the cell elements. Mr. Ley pointed out that the fat was situated in the cells of the connective tissue, and that the globules of fat were large contrasting with the small fat globules seen in the muscle cells in calcareous impregnation and hæmorrhagic necrosis of fibromyomata. He was of opinion that the tumour was either a condition of fatty metamorphosis of the fibrous stroma of a fibromyoma or a fibro-myo-lipoma. From the arrangement of the fat in the tissue and from the absence of young fat granule cells, he concluded that the former interpretation was probably the correct one.—The specimen was referred to the Pathological Committee, who gave it as their opinion that the tumour was a fibromyoma which had undergone fatty degeneration.

Dr. T. W. EDEN showed a case of Chorion-Epithelioma of the Uterus with Bilateral Lutein Cysts of the Ovary. The case occurred in a married woman, aged 27, who was admitted to the Chelsea Hospital for Women. The uterus was considerably enlarged, and after some days the cervix was dilated on account of hæmorrhage and the uterus evacuated of a well-marked hydatidiform mole by vaginal hysterotomy. At the time there was an area of suspicious thickening felt near the fundus, but it was felt advisable to do nothing further, as the patient had lost very considerably. Convalescence was normal. She was then sent to a convalescent home and requested to report herself later. Six weeks afterwards she returned to the hospital and was examined. The uterus was normal, but there was now a soft swelling in the region of the left ovary. There was no discharge from the uterus. A fortnight later the swelling in the left ovarian region had increased considerably, and a smaller cystic mass could be felt on the right side which was not detected at the first examination. Abdominal section was performed and two simple ovarian cysts found, together with a somewhat irregular uterus. Supravaginal hysterectomy was performed, and on opening the uterus masses of soft red growth were found. Sections showed typical chorion-epithelium deeply invading the uterine wall. Lutein cysts were present in the ovaries. The operation, which was performed two and a half years ago, was successful, and the patient had had no return of the disease up to the present time. Dr. Eden remarked on the total absence of hæmorrhage or discharge after removal of the vesicular mole, although a malignant growth was present in the uterus. Attention was drawn to the rapidity with which the ovarian cysts grew, and to the complete cure by operation which had resulted.—Remarks were made by Dr. WILLIAMSON and Mr. MALCOLM.

The PRESIDENT reported a case of Primary Epithelioma of the Vagina treated by Radium. The patient, aged 67, had had one child at 30; no miscarriage. Menstruation always scanty; ceased at 50. Health generally good, but had recently suffered from glaucoma and cataract in both eyes. Weight average. October, 1912: Mucous leucorrhœa first noticed, sometimes tinged with blood, but there had been no hæmorrhage or any pain. June 3rd, 1913: Examined under anæsthetic by Dr. Griffith, who found a warty papillary growth of the posterior fornix about 1½ in. in length by 1 in. in breadth, apparently involving the whole thickness of the thin senile vagina, but the rectal wall was quite free. The cervix was senile and healthy. A portion was removed and found to be squamous-celled epithelioma. Treatment by radium by Mr. Hayward Pinch at the Radium Institute: June 16th, 25 mg., screen 1 mm. silver, 6 hours; June 17th–20th, 50 mg., screen 2 mm. lead, 6 hours each day; July 25th, Mr. Pinch found that the greater part of the growth had disappeared, leaving a small patch of the size of a sixpence, and gave another course of radium; July 25th–29th, 25 mg. radium, screen 1·5 mm. lead, each day for six hours; Oct. 14th, Dr. Griffith examined and found no trace of disease, the vagina was smooth and soft, but a little more contracted than in June. Dr. Griffith reported this isolated case for two reasons—because primary epithelioma of the vagina was a comparatively rare disease, and because of its anatomical relations, treatment by operation was not very satisfactory, whether by partial excision, as in Dr. C. H. Roberts's case, by excision of the whole vagina (Olshausen), or by excision of the vagina and uterus (Amann). He hoped to be able to report the further progress of his case to the section, and suggested that all gynæcological cases treated by radium, and of which accurate details were obtained, should be reported. References were then made to the literature of the disease.—Remarks were made by Dr. H. MACNAUGHTON-JONES, Dr. H. RUSSELL ANDREWS, Dr. G. BLACKER, and Dr. CUTHBERT LOCKYER.

Dr. RUSSELL ANDREWS brought forward a case of Hæmatometra with absence of the upper part of the vagina. The patient, aged 22, who had never menstruated, complained of abdominal pain recurring every month for the last eight years. For the last few months this pain had been sufficiently severe to keep her in bed. For a long time—she did not know how long—she had had a tender swelling in the lower part of the abdomen. This swelling reached about three inches above the pubes. The external genitals were normal, but the vagina was not more than an inch long. On rectal examination a tumour, the size of a large pear, could be felt in the position of the uterus. No distinction between body and cervix could be made out. The abdomen was opened, and the uterus, which was five inches long, distended with blood, was removed, together with a left-sided hæmatosalpinx and small ovarian tumour, the right ovary, which was normal, being preserved. The patient made an uninterrupted recovery. No trace of the external os could be found, and the vagina seemed to be completely absent except for about an inch at the lower end. Dr. Andrews considered that the removal of the hæmatometra and hæmatosalpinx by the abdomen was better treatment than drainage from below, with an attempt at making a new vagina. The operation of grafting would be a very difficult one in a case where the upper part of the vagina was wanting.—Remarks were made by the PRESIDENT.

Dr. CUTHBERT LOCKYER introduced a case of Double Ovariotomy with unusual post-operative phenomena. This case occurred in the practice of Mr. C. Hamilton Whiteford, of Plymouth, who performed the operation, and whose clinical account of the case Dr. Lockyer read in full before the society. The patient was aged 78, and in August, 1910, Mr.

Whiteford operated for a strangulated right femoral hernia. The sac was so badly infected that the pelvic colon had opened and drained through the lower border of the right rectus muscle. The patient recovered, but was left with the colostomy and a large protrusion in the femoral region. Early in 1913 the lower abdomen began to enlarge, and in June of the same year was enormously distended and presented a fluid thrill. It was decided to make a small incision into the tumour mass, and five pints of creamy dermoid fluid escaped as well as hair. Five hours later an abdominal section was performed, and a large dermoid cyst of the left ovary removed with great difficulty, owing to adhesions. There was a smaller cyst of the right ovary. Both cysts contained more or less typical dermoid elements—hair, bone, skin, &c., together with more solid material of a fibrous nature. The fundus uteri was removed at the time of the operation. The abdominal wound healed well, but on the thirteenth day after a tumour was found in the left iliac fossa. This was incised through the left rectus muscle and simulated a cyst of the left broad ligament. It could not be removed. Five ounces of thin blood-stained fluid were withdrawn on the fifteenth day. The fluid re-collected in the pelvis, and on the twenty-first day 46 ounces were aspirated; on the twenty-eighth day 20 ounces were withdrawn—a total of 51 ounces in three weeks. Examination proved that urea was absent. On the fortieth day thorough drainage per vaginam was established. The patient gradually sank, and died at the end of four months. Post-mortem examination showed small masses of hard white growth in the pelvic floor. The left inferior quadrant of the abdomen was everywhere shut off by adhesions. There was no general hydroperitoneum or visceral deposits. There was no injury to bladder or ureter. Microscopical examination of the portions of the cyst walls showed that the case was one of bilateral perithelioma. The masses in the pelvis, whether secondary or the remains of the primary growth, would account for the curious clinical feature of continuous local secretion of large amounts of fluid by the peritoneum.—The specimens were referred to the Pathological Committee, who agreed with Dr. Lockyer that they were dermoid tumours, in which definite perithelio-matous changes were present.

Mr. DOUGLAS G. REID (Cambridge) read a paper (with lantern slide demonstration) chiefly dealing with the Genito-Mesenteric Fold of Peritoneum, which he had described in the fœtus and demonstrated in adults. He pointed out that the terminal part of the ileum might be connected to the abdominal wall by (1) this fold, (2) the "bloodless" fold of Treves, or (3) adhesions (common both in the fœtus and adult). He discussed the question of intestinal flexures and showed how these might become acute. It was important to distinguish between (1) permanent flexures and (2) those which had no real claim to be regarded other than temporary. The genito-mesenteric fold appeared after the fourth month of fœtal life, was attached along definite lines and at first free as regards adhesions. Later the ileum, appendix, cæcum, &c., might adhere to it, and through it be very closely bound to the right ovary and Fallopian tube. It was very common for the meso-appendix to adhere to this main (genito-mesenteric) fold. This fold was of importance in relation to the spread of infection or inflammation from the bowel to the ovary and tube or in the opposite direction. An important point was the presence of lymphatic nodes in the fold. Surgically the fold was of importance for many reasons. It determined adhesions which, besides lowering the root of the mesentery, would act as barriers restricting the spread of inflammation. It was the commonest cause of a retrocolic position of the appendix. It would complicate operations for the removal of the appendix, &c., produce hernia, displace viscera, and possibly determine strangulation of the bowel. Variations in the position and relations of the appendix at various stages of cæcal torsion were considered and were of importance. The action of the pelvic colon in producing adhesions and obliterating the genito-mesenteric fold was discussed. Thus the fold was not so common in the adult as in the fœtus. The origin of Jackson's membrane was considered. The retro-pancreatico-duodenal fossa and other fossæ, folds, and adhesions were demonstrated, as was the supra-adhesion foramen. Their importance was considered, especially in relation to the formation of "ready-made abscess cavities" and operations upon the stomach. Practically all the points were illustrated with photographs.—Remarks were made by Professor D. WATERSTON and Dr. MACNAUGHTON-JONES.—Mr. REID replied.

SECTION OF OTOLOGY.

Exhibition of Cases, &c.

A MEETING of this section was held on Jan. 16th, Mr. RICHARD LAKE, the President, being in the chair.

Dr. DAN MCKENZIE showed a child, aged 6 years, the subject of Mastoiditis without perforation of the tympanic membrane. A month after the removal of tonsils and adenoids there was swelling in the mastoid region, and on return to hospital the cortical mastoid operation was performed. The mastoid cells were occupied by pus and granulations. At no time was there any discharge from the meatus. Recovery was uneventful.

Dr. MCKENZIE also showed, in conjunction with Dr. BENNETT, a case of Acute Purulent Otitis Media with signs of acute labyrinthitis, in which recovery ensued without operation on the labyrinth. There had been pain and discharge on the right side following influenza, and the cortical mastoid operation was performed a month later, but fever, vertigo, and deafness continued. Three weeks later the wound was reopened, but no fistula into the labyrinth was detected. The temperature fell to normal after the second operation, and the wound slowly healed. Later severe and continuous pain behind the right ear was complained of, radiating to the top of the head and down into the neck. Giddiness ensued on slight movement of the head, and there was nausea, but no vomiting and no spontaneous nystagmus. Tests showed absence of hearing in the right ear, and the vestibular reactions were absent. The radical mastoid operation was performed, as an exploratory measure, but all the parts were sound and there was no pus. A lumbar puncture yielded normal cerebro-spinal fluid. After a neurological examination functional disorder was diagnosed, and a few days later, under strong moral suasion, the pain and other symptoms suddenly disappeared. The right ear has remained deaf and the vestibular responses are negative.

The PRESIDENT exhibited a patient after operation for Aural Vertigo. He was aged 61, and had been totally deaf for three years. The first attack of vertigo came on seven years ago, suddenly, while he was asleep The attacks had since increased in frequency, but had not been so severe as the first one. Objects around him appeared to rotate in a vertical plane. Unless he kept his eyes shut he vomited. He had continuous tinnitus in the left (the deaf) ear. His blood pressure was 110. There was no Rombergism; his gait was steady, with no deviation and no ataxia. No nystagmus in the left eye (the right eye is artificial). The operation was easily tolerated.

THE PRESIDENT also showed some remarkable photographs of Sound Waves (taken by Mr. Duddell, F.R.S.). They were waves produced by various agencies, such as organ pipes of various shapes, tuning forks, and violin strings. The latter were quite complicated, and the degree of "interference" shown in the latter was held to account for the extreme richness of tone given out by that instrument.

Mr. G. J. JENKINS showed a case of Hæmatoma Auris which he had successfully treated by operation. The patient, a female aged 32, received a blow at night, and next day the swelling involved the whole external surface of the cartilaginous part of the pinna, and was the size of a hen's egg. That afternoon an incision was made along the margin of the helix. The contents were mostly fluid blood, but there were some clots in the lower part. The blood extended somewhat into the meatus. The patient's present appearance seemed fully to justify the course which had been followed.

Mr. SOMERVILLE HASTINGS showed a peculiar case of deafness for the purpose of ascertaining the opinions of members. The general view seemed in favour of it being functional. The Wassermann test proved negative, and various treatments had been without avail.

MEDICAL SOCIETY OF LONDON.

The Pathology of Syphilis.

AT the meeting of this society on Jan. 12th, Sir DAVID FERRIER, the President, being in the chair, Dr. W. D'ESTE EMERY opened a discussion on the Pathology of Syphilis. His paper (a summary of which appeared last week) is published in full in the present issue of THE LANCET.

Mr. J. E. R. MCDONAGH first drew attention to the cause of syphilis, which was, in his opinion, a spore that went through a complete life cycle, forming male and female

bodies.[1] As a result of fertilisation of the female body by the male, which was the spirochæta pallida, spores were ultimately formed again. The spores were shown to differ from the other phases chemically, which accounted for the latent periods to be met with in the course of the disease, the syphilitic lesions being due to the activity of the spore in completing its life cycle. The pathology of all the syphilitic symptoms was discussed, and special attention was paid to the pathology of the specific nervous manifestations. Mr. McDonagh considered that the early syphilitic nerve lesions were vascular, giving rise to hemiplegia in the brain and myelitis in the cord, both lesions of the anterior surface. The late lesions were due to direct extension of the organisms from the meninges into the nerve substance, which gave rise to general paralysis in the case of the brain and tabes in the cord, both lesions of the posterior surface. The way the body reacted to the syphilitic organism and how it protected itself against it were next discussed. Mr. McDonagh considered that salvarsan attacked the spirochætæ directly owing to the free OH groups which the organism presented, since it contained in its chemical configuration an unsaturated fatty acid, but that the other phases were destroyed indirectly. Salvarsan he considered to act as an accelerator of the enzyme action with which the serum and plasma cells attacked the leucocytozoon, and this zymotic action was thought to be of the nature of an oxydase. Reference was made to the Wassermann reaction, the luetin reaction, and the tests employed for examining the cerebro-spinal fluid, but since the rationale of the chief tests was unknown Mr. McDonagh thought it wiser to defer discussion till later.

Dr. PAUL FILDES said that the effect of treatment upon syphilis, as illustrated by the behaviour of the Wassermann reaction, varied according to the stage of the disease. In early syphilis the reaction might be made negative rapidly by treatment, whilst in late syphilis the reaction seldom if ever became negative. Thus it might be said that early syphilis was curable, but late syphilis incurable. This phenomenon was due to the fact that early syphilis was a septicæmic condition, while in late syphilis no spirochætæ were found in the blood stream. Since drugs operated through the blood stream they were unlikely to affect spirochætæ which had already invaded the tissues, especially as the effect of salvarsan was very transient. It was no longer to be found in the blood after a few hours (McIntosh and Fildes), and therefore it would have little opportunity of destroying spirochætæ which were distant from the vessels. It had been suggested that spirochætæ became hidden in gummata and thus escaped, but, on the other hand, gummata were very readily curable. The incurability of late syphilis was due to anatomical, not pathological, causes. There were areas of the body into which salvarsan did not penetrate, in particular the brain (McIntosh and Fildes). Thus any spirochæta situated in the extravascular cerebral tissues would survive in spite of treatment, as in dementia paralytica. Another area which remained unaffected by salvarsan was the aorta. Mesaortitis syphilitica was by far the commonest late lesion of syphilis in the post-mortem room (Turnbull and Fildes). The greater part of the aortic wall was non-vascular, and thus the spirochætæ escaped destruction.

Dr. J. MCINTOSH said that the difficulty of effecting a cure in the various manifestations of nerve syphilis was a well-known clinical fact, but why was this so since all such lesions were due to the presence of the spirochæta pallida? Either the spirochætæ had become resistant to the medicament or else they were not reached by it. The first was readily disposed of, as there was no direct evidence in support of the contention. Three years ago, while investigating the distribution of arsenic in the organs of a congenital syphilitic infant who died shortly after salvarsan treatment, he was struck by the fact that no arsenic was present in the brain. An examination of several other brains, both human and animal, demonstrated that arsenic did not get into the brain even after large doses of arsenical preparations had been given. At first Dr. Fildes and he considered that this merely showed that salvarsan did not fix on the brain substance, and was therefore not neurotropic. They, however, had found that salvarsan fixed as readily *in vitro* to the brain as it did to the liver. The failure of the arsenic to reach the brain they considered was due to two causes. 1. The active duration of arsenical preparations in the blood stream was very short, due to its being rapidly "mopped up" by the liver and other vascular organs. In man, even after a maximum dose of neosalvarsan, little or no arsenic was present in the blood after an interval of 12 hours. In fact, a therapeutic quantity was only present for three or four hours. 2. A peculiar anatomical construction of the brain and its membranes, in particular of the capillaries. It had been said that the arsenic failed to reach the brain because it did not gain access to the cerebro-spinal fluid, which was looked upon as the lymph of the brain. They, however, could not agree with this, as it was most unlikely even from its composition alone that cerebro-spinal fluid was a nutritive medium. As regarded the therapeutic effects of Swift's intraspinal injections they had found that the amount of serum injected contained a therapeutic dose of salvarsan, so the curative effect was due to this and not to any syphilitic antibodies.

[1] THE LANCET, Dec. 14th, 1912, p. 1650.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—A meeting of this society was held on Jan. 9th, Dr. A. K. Chalmers, the President, being in the chair.—Dr. Andrew A. McWhan read a paper on Problems of Rural Housing. He said that the failure to provide a sufficient number of sanitary dwellings for the working classes had been attributed to the indifference or unwillingness of local authorities to carry out the provisions of the Housing Acts, more especially when these involved the possibility of increasing the local rates, and to the difficulty of erecting suitable dwellings at a cost allowing of their being let at a remunerative rental; but in rural districts there were also economic considerations complicated by political opinions, particularly on the land question. In Scotland the problem of reconstruction was complicated by the fact that many rural houses were built of stone and were without damp-proof courses, which on account of excessive cost could not be inserted in existing dwellings. Although the duty of providing houses was cast upon rural authorities it was unlikely that they would carry out that duty without central pressure, and county councils were not likely to be any more active. If the Housing Acts were to be administered honestly and conscientiously by the local authorities and it was found that the cost entailed in housing schemes involved a charge which rural industries could not bear, the solution of the housing problem lay with economists and politicians, and not with sanitary officials.—Dr. W. G. Savage agreed that medical officers of health often found themselves considering the problem from the administrative point of view as well as from the broader aspect in relation to the economic welfare of the country. In his opinion the essential business of the medical officer of health was to carry out his legally prescribed duties and neither to neglect nor to modify them because he considered that to do so would make existing matters worse. It was his duty to ascertain and to represent all unfit houses to his authority. It was for the authority to consider the representation and to decide as to the necessity for making closing orders. The owner of a condemned house should always be supplied with a full list of its defects which when remedied would make the house fit.—Mr. F. E. Fremantle advocated the provision of three-bedroom cottages, and considered it should be made illegal for a girl over 6 years of age to occupy the same bedroom with boys or men.—Dr. A. H. Bygott uged the importance of building by-laws and thought that county councils should have the power to make them.—Dr. John Taylor preferred to see a minimum floor space insisted upon rather than make three bedrooms compulsory. It would be useless to send the housing problem to the county councils; it must be dealt with by the central authority.—Mr. Herbert Jones advocated the formation of a central housing authority which should have all the powers of a local authority, and should only use them when the latter did not desire to do so.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A clinical meeting of this society was held on Jan. 16th at the West London Hospital, Dr. F. S. Palmer, the President, being in the chair.—Three short papers were read on the subject of Congenital Abnormalities.—Dr. E. Arthur Saunders discussed Abnormalities from the Medical Side.—Mr. N.

Bishop Harman read a paper on the Inheritance of Congenital Defects, and Mr. Oswald L. Addison read a paper on Some Common Surgical Abnormalities.—The following cases were shown:—Dr. F. S. Palmer: A case of Congenital Heart Disease with Residual Hemiplegia.—Mr. W. MacAdam Eccles: (1) A case of Syringomyelia and Acromegalia combined; (2) a case of Spina Bifida Occulta; and (3) a case of Meningo-myelocele, operation; subsequent hydrocephalus.—Dr. Saunders: (1) A case of Congenital Mental Deficiency: Mongolism, Cretinism, Microcephaly, Hydrocephaly.—Dr. George Pernet: (1) Diffuse Nævus in a Boy; (2) Supernumerary Fingers in a Boy; and (3) a case of Spacing and Notching of Upper Incisors.—Dr. J. F. Halls Dally: Two cases of Congenital Heart Disease.—Dr. Harold Pritchard: A case of Congenital Heart Disease.—Mr. Bishop Harman: Cases and drawings illustrating Congenital Defects of the Eye.—Mr. O. L. Addison: (1) A case of Sprengel's Shoulder; (2) a case of Occipital Meningocele with Sprengel's Shoulder; (3) Congenital Hydrocephalus with Occipital Myelocele and Supernumerary Thumb; (4) a case of Congenital Scoliosis; (5) a case of Congenital Deformity of Femur and Absence of Upper Third of Fibula; and (6) Congenital Dislocation of Rudimentary Patella.—Dr. A. C. D. Firth: (1) A case of Congenital Scoliosis due to extra half vertebra.—Mr. H. Tyrrell Gray: A case of Gigantism of the Left Leg, Talipes Equino-varus in the Right Leg, and Vascular Abnormality; Congenital Club-hand with Rudimentary Thumb and Absence of Metacarpal Bone; Mild Phocomelia with other deformities; Cleido-cranial Dysostosis.—Dr. Stanley Wyard: A case of Congenital Absence of the Bile-ducts.—Dr. F. Sherwill Dawe: A case of Desitio Cardia.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Jan. 16th, Dr. David Ross, the President, being in the chair.—Dr. N. S. Finzi showed a woman who had been before the society in November, 1913, and who had been treated with radium bromide 0·205, exposed through 0·005 of platinum for five hours. The result was excellent, all active rodent ulcer growth being absent, and the scar thin, smooth, and white. Cartilage had been destroyed by the disease, leaving a gap of 2·5 cm. through the nose and skin.—Dr. P. Hamill showed: 1. A boy, aged 7 years, with Aortic Stenosis. 2. A boy, aged 3½ years, with Pulmonary Stenosis and Urine Incontinence. 3. Two Hearts that had been prepared by formalin, alcohol, and paraffin, making admirable specimens for demonstration.—Dr. Leonard Williams showed a boy aged 11, looking 5 years of age, who was short, plump, but mentally alert. The palate was good, the eyebrows marked, and the speech normal. He is being given thyroid extract hopefully. 2. A boy, aged 15, who at 12 had left hemiplegia from which he recovered. He had been troubled much by facial bilateral spasm, nocturnal incontinence from birth, and vomiting was frequent. From 2 to 8 years of age he was epileptic. By general treatment as an in-patient he had much improved. 3. A man, aged 27, invalided from the navy on account of an early Aneurysm of the transverse aortic arch associated with an enlarged heart.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 7th, Mr. R. G. Hogarth, the President, being in the chair.—A paper was read by Dr. W. T. Rowe on the Bismuth Meal. He stated that examination of the alimentary canal by means of bismuth and X rays had thrown new light on the anatomy of the stomach and large bowel. The stomach was not the flaccid bag lying in the upper part of the abdominal cavity, as was frequently supposed, but was a J-shaped organ lying almost wholly to the left of the median line. Evidence could be obtained as to the presence of duodenal or gastric ulcer, and differences observable in the bismuth shadow, especially as to the rate of emptying the stomach, were of importance in the differential diagnosis of these conditions. Organic hour-glass stomach was not definitely diagnosable by any other means. Dr. Rowe said that obstruction of the œsophagus was more safely and more thoroughly investigated by this means than by any other. As regards carcinoma of the stomach X rays and bismuth were not of as much service as a diagnostic method as one could hope, but he considered retention of the meal in the stomach for eight hours, especially if there was little or no dilatation, as strong evidence of malignant disease of the stomach.

Reviews and Notices of Books.

Diseases of the Heart.

By JAMES MACKENZIE, M.D. Edin., F.R.C.P. Lond., Physician to the London Hospital (in Charge of the Cardiac Department). Third edition. London: Henry Frowde and Hodder and Stoughton. 1913. Pp. 502. Price 25*s*.

THE second edition of this excellent work was published in 1910, and the advances that have been made in the knowledge of the heart since that time have necessitated the rewriting of the greater portion of the book. A comparison of the volume now before us with the first edition at once demonstrates the extensive revision and additions which have been found necessary. Dr. Mackenzie points out that the advances have been mainly along three lines: First, the clearer differentiation of the signs of disease—for this purpose the introduction of the electrocardiogram has been of the greatest service; secondly, the bearing of heart manifestations on the question of heart failure, present or remote; and thirdly, the basing of treatment on sound and scientific principles.

The remarks on the pathology of heart failure and on the principles underlying its production will well repay careful study. Dr. Mackenzie lays stress on the importance of the heart muscle being kept in a state of efficiency, as it is this muscle which supplies the force that maintains the circulation. In the normal condition the various parts of the mechanism of the circulation are so adjusted that all parts combine to facilitate the work of the heart and to attain the object of the circulation. Any disturbance of that adjustment must at once throw more work upon the heart muscle. So long as the heart can overcome the impediment and maintain the circulation in a normal manner no symptoms are evoked, but if the heart is no longer able to carry out its requirements then certain phenomena at once arise, which are known as "symptoms of heart failure." From this consideration, as Dr. Mackenzie remarks, it will be realised that heart failure is simply inability of the heart muscle to maintain the circulation, and that this failure is due to too great a strain being put upon it. He then proceeds to discuss the two forces of the heart muscle which are the essential features to be studied when dealing with prognosis in cardiac disorders. Dr. Mackenzie explains that the force inherent in the heart muscle may be considered for practical purposes to be composed of two parts—that is to say, a part which is employed to maintain an efficient circulation when the body is at rest, and which therefore may be called the "rest force," and a part which is called into action when effort is made, and which may be termed the "reserve force." The rest force is the minimal force which the heart can exert to maintain the circulation at a level consistent with life. Impairment of this rest force produces those evidences of heart failure which persist when the body is at rest, such as dropsy, dyspnœa, and the continuance of such impairment eventually leads to a fatal issue. This hypothesis is one on which to base principles both of prognosis and treatment. The author considers that the standard by which the amount of reserve force can be estimated is, in the main, personal, each individual unconsciously acquiring a knowledge of what he can do. So long as he exercises the heart within the limits of his

powers no symptoms arise, but as soon as the reserve force is exhausted and the effort is persisted in distress and discomfort are experienced.

Special interest attaches to the chapter devoted to the instrumental methods of examination of the heart and circulation. The polygraph has been employed for some years, but the electrocardiograph is of more recent introduction, and has yielded much interesting information. A good description is here given of it and of the tracings of a normally acting heart which may be obtained.

Several chapters are devoted to description of the irregularities of the heart's action. The sinus irregularities, the irregularity produced by extrasystoles, and the phenomena resulting from failure of the conducting power of the auriculo-ventricular bundle have long been recognised, but the conditions known as auricular fibrillation and auricular flutter are of more recent cognisance. We agree with Dr. Mackenzie in the view that the recognition of auricular fibrillation and the symptoms associated with its presence is the most important discovery yet made in the domain of the functional pathology of the heart. The great frequency of its occurrence renders it imperative that all practitioners should become familiar with its symptomatology, for 60 or 70 per cent. of all cases of serious heart failure met with in practice owe the failure directly to this condition or have the failure aggravated by its presence. Moreover, the response of hearts affected with auricular fibrillation to remedies differs so much from the response of all other forms of heart action, normal and abnormal, that the recognition of its characteristics materially alters the views universally held as to the action of drugs upon the heart. The method of using digitalis when this condition prevails is described in detail, for the manner of its application needs very careful attention.

This volume is undoubtedly one of the best manuals which have been published on diseases of the heart. It is the result of hard and continued study and investigation, and Dr. Mackenzie may be heartily congratulated on the success of his labours.

Innere Sekretion: ihre physiologischen Grundlagen und ihre Bedeutung für die Pathologie.

Von Professor Dr. ARTUR BIEDL, Wien. Zweite, neubearbeitete Auflage. Zweiter Theil. Mit 56 Textfiguren und 13 mehrfarbigen Abbildungen auf 6 Tafeln. Berlin, Wien: Urban und Schwarzenberg. 1913. Pp. 692. Price, paper, M.26; bound, M.28.

THE first fact that strikes one after having cut the pages of this volume is the astounding mass of literature that has been published on the subject of internal secretions. Not including the index for the two volumes, which runs to nearly 40 pages, the titles of the various papers collected by the author occupy nearly 260 pages, and the author in his modest statement does not in most remote degree pretend that the list is complete. The old literature up to the middle of last century is completely omitted. Even the work of Horsley, Langendorff, Paulesco, Hammer, and others is spoken of as the older literature.

This, the second, volume opens with a continuation of the study of the adrenal system, including a very elaborate account of adrenalin as a secretory product of the adrenal system. The splanchnic nerve is regarded as the true secretory nerve of the adrenals. Special attention is directed to the quite recent investigations on the adrenalin content in the human subject. As to the fate of adrenalin in the blood, more importance is to be ascribed to its destruction in, than its elimination from, the organism, the destruction depending, in the first place, on the alkaline reaction of the blood. Five pages suffice for the carotid and coccygeal glands. The former by its structure clearly belongs to the chromaffin group of organs, while the latter does not yield the chrome reaction and does not belong to the sympathetic system.

Over 100 pages are devoted to the pituitary body, or hypophysis. After a short historical introduction, the anatomy, development, and histology of the organ are given and illustrated. We note in passing that the large figure of the arrangement and relations of the organ in the dog is very good. In the description is included an account of the structure of the pharyngeal hypophysis. Next the relation of the hypophysis to other endocrine organs is considered, and first to the thyroid—a relationship suggested many years ago (in 1839) by J. Engel, and experimentally proved much later (in 1886) by Rogowitsch. The author's own experiments show that removal of the thyroid gland in the dog, but more especially in the rabbit, results in a very considerable hypertrophy of the pars intermedia of the hypophysis. Castration causes very considerable changes in the gland, a fact first determined by Fischera in 1905; the weight of the hypophysis is greatly increased, and there is also an increase in the number of the eosinophile cells. The same applies to the effects of removal of the ovaries. In some animals, however, such as the rat, the author finds that castration, while causing an increase of volume, leads to a diminution of the eosinophile cells in relation to the chief cells; while peculiar larger voluminous globular cells are also present. It is stated that after castration in man—i.e., in eunuchs—as well as after removal of the ovaries in women, the hypophysis enlarges. Not only so, but there is hypertrophy also during pregnancy.

The physiology of the hypophysis is next considered under the following heads: Effects of removal—partial or total—in different animals, very elaborate details being given; transplantation and stimulation experiments. There is a full account of experiments with extracts of the anterior and posterior lobes, illustrated by blood-pressure and other tracings, including the effects of pituitrin on organs composed of smooth muscle, such as the uterus, as well as the effects on the urinary secretion. Nor is the galactagogue action of hypophysis extract, first discovered by I. Ott in 1910, omitted. Then follows an account of the metabolism and the therapeutical applications of the extract. Disease of the organ in man, and acromegaly, gigantism, and dystrophia adiposa genitalis are very fully considered, with copious references to the literature.

A few pages, about ten, are given to the pineal gland. Nearly 150 pages are occupied with the discussion of the generative glands, the determination and characteristics of sex, menstruation, lactation, "pubertas præcox," the effects of castration, transplantation of the ovary, parabiosis, transplantation of the testis, the action of extracts of the testes and ovary and their therapeutical application, the internal secretions of the testis and ovary and other parts of the generative apparatus. The remainder of the text, about 50 pages, is devoted to the internal secretion of the pancreas, to diabetes mellitus, and to the internal secretion of the

stomach, intestinal mucous membrane, and the kidney.

We have nothing but praise for this monumental achievement on the part of the author. It is far and away not only the best but the most comprehensive book on the subject. We wish most heartily that it may speedily be presented in an English translation. It is well worthy of it. We can but thank Professor Biedl for his own successful labours on the subject and the ingathering, codification, and exposition of the colossal amount of work by the host of other observers whose names and the titles of their contributions make up far more than one-third of the present volume.

Diagnostic Methods, Chemical, Bacteriological, and Microscopical: A Text-book for Students and Practitioners.

By RALPH W. WEBSTER, M.D., Ph.D., Assistant Professor of Pharmacological Therapeutics and Instructor in Medicine in Rush Medical College, University of Chicago, &c. Third edition. London: Henry Kimpton; Glasgow: Alexander Stenhouse. 1913. Pp. 692. Price 18*s.* net.

WE are glad to see that the favourable opinion we expressed of the first edition of this book has been justified by a rapid demand for further editions, and that the author has thus been enabled to keep the book up to date. The present form of the work still justifies the encomiums we originally passed on its completeness and accuracy, and while it is larger by some 50 pages than the first edition, its price has been reduced from 25*s.* to 18*s.*

Additions to its contents include, among others, Tollens's test for glycuronic acid, Hart's for β-oxybutyric acid, and Abderhalden's sero-diagnosis of pregnancy. The author regards Benedict's test as the best for qualitative recognition of sugar in the urine, and Bang's as the most accurate quantitative reagent. The latter seems indeed to be gaining general recognition in laboratory work. Apart from our former criticisms as to the advisability of devoting space in a manual of diagnosis to theoretical pathology such as the causation of diabetes or Ehrlich's theory of immunity, we would suggest that such procedures as the author finds to be of little or no value should be omitted, whereas, on the other hand, when a special manipulation, such as Sahli's method of tying the little india-rubber bags used for his gastric test, is noted as important, it is exasperating to be referred to the original article for guidance. The account of the diagnostic use of tuberculin is particularly meagre. There are fewer misprints than in the first edition, but we notice "oligema" for oligemia, "vesicle" for vesical, and a few more. The blemishes that we have found are, however, slight, and we unhesitatingly commend the book to the attention of laboratory workers, to whom it should prove of the greatest value.

Sciatica: a Fresh Study.

By WILLIAM BRUCE, M.A., LL.D., M.D. Aberd. With notes of nearly 700 cases and 18 plates. London: Baillière, Tindall, and Cox. 1913. Pp. 175. Price 5*s.* net.

THE view that sciatica is essentially a disease of the hip-joint is associated in these days more particularly with the name of Dr. William Bruce, whose writings on the subject are probably familiar to the medical profession. In the present little volume he has amplified his own views and supports them with a very large amount of clinical material investigated in a painstaking manner.

In a considerable number of cases Dr. Bruce says that the muscles of the hip are wasted; there is marked tenderness on pressure over the capsule of the joint; passive movements at the articulation are often limited and cause pain. Taken collectively, these arguments for the arthritic origin of sciatica are, in the author's opinion, very cogent, and he holds that when it is found that a large proportion of cases are due to hip-joint trouble it is philosophical to assume that the remaining cases also belong to the same category. He maintains that other explanations are both hypothetical and insufficient.

We do not suppose that anyone will quarrel with Dr. Bruce's contention of the frequent arthritic origin of sciatica; this has long been recognised by writers on the subject. If the physician will but submit every case of the condition to X-ray examination he will be surprised at the frequency with which arthritic changes in the joint can be recognised. At the same time, we cannot subscribe to the generalisation of Dr. Bruce, that other explanations are insufficient. Sciatica may be a symptom of disease of the cauda equina, of tumours or meningitis of the cauda or conus medullaris; it may complicate a myositis, or may occur as evidence of definite neuritis, as, for instance, in diabetic sciatica. These conditions are not hypothetical; their pathology is unmistakable. Some years ago[1] we drew attention to a paper by Professor Karl Petrén, of Upsala, on the relation of sciatica to morbus coxæ senilis (unfortunately Dr. Bruce does not refer to this important paper in his bibliography), in which evidence is adduced to show that it is possible to make a differential diagnosis between the types of sciatica; and the practitioner who may be inclined to be satisfied with the arguments advanced so lucidly and so cogently by a physician of such experience as Dr. Bruce will do well to read that article.

Handbook of Sanitation.

By G. M. PRICE, M.D., Director of Investigation, New York State Factory Commission, &c. Third edition. New York: John Wiley and Sons. London: Chapman and Hall. 1913. Pp. 353. Price 6*s.* 6*d.* net.

THIS handbook is primarily intended for sanitary, tenement, and other inspectors in the various United States services, and gives an introduction to some of the elements of practical sanitary science. It is, however, hardly full enough to serve for English readers as an examination text-book, and as a work of reference it would, we think, have gained by greater detail in describing matters in which strict attention to exact methods is necessary. The examination of drains by the water, smoke, and peppermint oil tests, or the procedure to be followed in dealing with offensive trades and nuisances, are instances in point. It is noteworthy that Dr. Price, in dealing with public water supplies, considers that, whether there is a public water purification plant or not, every individual household should itself be provided with some means of local water purification—a proposition decidedly foreign to British theory and practice.

The chapter on foods has been rewritten and expanded, but the short paragraphs given to the preparation of various foods seem hardly sufficient as a guide to practical food inspection, and are not always strictly accurate. The description of milk

[1] THE LANCET, May 29th, 1909, p. 1539.

powders as prepared "by slow evaporation of the water of the milk" hardly applies to the usual processes of making dried milk; condensed milk as a rule is very far from being sterilised; and the percentage of cream in milk is not the same thing as the percentage of milk in cream. The proportion of tuberculous milk which owes its tubercle bacilli to infection from the human tuberculous case is so small by comparison with bovine infection that it hardly deserves the prominence which it receives in the text. The distinctions between chilled and frozen meat might usefully have been stated, and the process of curing described under methods of preservation of meat.

An addendum to the report gives a useful set of specimen examination papers set by the New York State and municipal civil-service commissioners to candidates for the various sanitary posts. These questions are searching, and some of them—for example, What is a sweat-shop? What would you do on seeing cocoanuts with one eye plugged? In what way would you find out whether a boiled lobster was fit for food?—might be expected to elicit some curious answers.

L'Action Directe sur les Centres Nerveux: Centro-therapie.

Par PIERRE BONNIER. Avec figures dans le texte. Paris: Félix Alcan. 1913. Pp. 304. Price 5 francs.

IT is somewhat difficult to follow the author of this little volume in his contention that the medulla oblongata is the "bureau of works" for the whole organism, and that it is owing to the functional activity of the medulla that every tissue element, every viscus, every mechanism, is what it is and does what it ought to do. Although the author does not, in so many words, specify the exact anatomical relations of medullary centres to the various viscera of the organism, it is probably the autonomic system of which he is speaking and to which he attributes so much. In this respect we feel that the true sympathetic system has been somewhat neglected; certainly its functional activity is of equal importance for the organism.

Assuming, however, the general position, the author proceeds to argue that it is always possible to modify the function of bulbar centres by direct afferent stimuli, the shortest path for which is by the sensory nerves of the nasal mucosa to the ponto-medullary centres of the fifth or trigeminal nerve. We may grant at once that a patient may be roused from fainting or a deeper unconsciousness by cold water thrown on the face, by stimulation of the nasal mucosa with ether or ammonia, by traction of the tongue, and so on. It is, however, a long and uncertain step from this to hold, as the author does, that there are definite points on the nasal mucosa, stimulation of which will have a special action on one or other viscus or bodily system. He makes out a sort of map of the nasal mucous membrane, and by light cauterisation in selected spots he considers that he has cured or relieved such diverse conditions as cirrhosis of the liver, claustrophobia, albuminuria, angina pectoris, exophthalmic goitre, and Little's disease. The author gives a catalogue of diseases in alphabetical order treated by himself by this method, beginning with aboulia and ending with xanthelasma. It is regrettable that any useful elements of therapeutic practice in the method, of which we do not doubt the author has had much successful experience, should be obscured by its exaltation into a panacea for all the ills, organic and functional, to which flesh is heir.

Lord Lister: His Life and Work.

By G. T. WRENCH, M.D. Lond. London: T. Fisher Unwin. 1913. Pp. 384. Price 15*s.* net.

THIS is an industriously written book putting out the salient points of Lord Lister's great career. The author, having had, we surmise, little or no personal acquaintance with his subject, does not represent the events quite in due proportion, but he has attacked his task with whole-hearted energy, and brings to it the qualities of fluency, and the capacity for arranging the vast stock of material which is the common property in connexion with Lord Lister's life.

It is well known that when the Listerian doctrines were first promulgated they did not receive universal approval from contemporary authorities, and indeed aroused antagonism among many surgeons both at home and abroad. London was perhaps particularly slow to perceive either the value of the work which had already been done, or its immense prospects, although in this connexion we find Dr. Wrench's description of the attitude of THE LANCET misleading. He tries to make us ashamed of our descent from persons who, in the early "seventies," displayed such "silly arrogance" and "inconceivable vanity"—if not of our present existence. Well! well! if that sort of thing, however inaccurate, will help to sell a book which presents Lord Lister as a hero we have no objection to make. But we question Dr. Wrench's wisdom in essaying so large a task as a biography of Lord Lister or an appreciation of his work. For such a task it seems to us can be discharged adequately only by someone having more familiarity alike with the details of the history as they occurred, and with the developments of modern pathology, so far as they derive from, or are connected with, or are independent of, the wonderful exploits in Glasgow, Edinburgh, and London of half a century ago. For example, Dr. Wrench does not appear to us to understand clearly what a modern pathologist means by immunity. For him it seems that destruction of the microbe by chemical agencies, whether carbolic acid or nature's complex products, is the whole objective. He does not comprehend that the use of a vaccine is an attempt to bring antibodies (not antiseptics) made by nature's own methods to the actual parts where microbes are producing their effects by the natural agencies; he does not appreciate in this connexion the limited action of the antiseptic applied externally. The wisdom and philosophy of Lister's methods really require no support, and Dr. Wrench's allusions to vaccines would not enhance Lister's achievements, if anything were wanting to that end. His concluding chapter might well have been omitted.

We do not quite understand the stricture passed upon Lord Lister's "most devoted friends and followers" who "did not become fully imbued with the wonderful simplicity that characterised the master." The cause of these remarks is the form in which Lister's written works appeared five years ago, when a collection of his scientific papers was published in two large volumes by the Clarendon Press. This publication was made at the instance of many men who desired to do some little

personal honour to the famous octogenarian on the occasion of his eightieth birthday. The fact that these volumes were large, excellently printed and illustrated, handsomely bound, and distinctly expensive is set down to the "pomp and vanity of man," the vain and pompous people being in Dr. Wrench's mind, we must suppose, those who were responsible for the shape and style in which the volumes were issued. If Dr. Wrench had been familiar with the proceedings in connexion with the issue of those volumes he would have known that Lord Lister himself approved of the format chosen, the size being necessary for the inclusion of some of the illustrations.

We have no doubt that this book will obtain a good circulation, and we would not have it otherwise because of the whole-hearted admiration of Lister which pervades it, and which will be communicated to every reader. But it is not an important or judicious production.

LIBRARY TABLE.

Food Inspection and Analysis. By ALBERT E. LEACH, S.B. Revised and enlarged by ANDREW L. WINTON, Ph.D. Third edition. First thousand. New York: John Wiley and Sons; London: Chapman and Hall, Limited. 1913. Pp. 1001. Price 31s. 6d. net.—We have commended this book upon two previous occasions, and we can express no surprise that a demand has arisen for a third edition, since it presents an excellent account of modern analytical methods applied directly to the examination of foods and beverages. Considerable revision and extension have been effected in this new edition, this duty having been undertaken by Dr. Andrew L. Winton, chief of the Chicago Food and Drug Inspection Laboratory, Bureau of Chemistry in the United States Department of Agriculture. In spite of the number of new analytical details included, the size of the book has only been increased by 47 pages. Space has been wisely saved by jettisoning those earlier methods of analysis, which are now replaced by more accurate and convenient procedures. The administration of food laws in the United States is conducted on somewhat different and more strict lines than is the system in use in this country. On questions of legal procedure, therefore, the book would afford little help to the English public analyst, but it will give him considerable assistance in regard to laboratory work connected with the detection of adulteration of foods and beverages. The processes described are well up to date, and give evidence of having been submitted to practical trial in the writer's laboratory. Apart from analytical practice, the information which it contains is of interest from a general economic standpoint.

A Handbook of Sanitary Law for the Use of Candidates for Public Health Qualifications. By B. BURNETT HAM, M.D. Brux., M.R.C.S. Eng., D.P.H. Camb., late Chief Health Officer for Victoria, Australia, and Commissioner of Public Health for Queensland. London: Ash and Co. 1913. Pp. 194. Price 3s. 6d. net.—This little volume has no more ambitious object than the condensation of a very considerable mass of legal matter for the benefit of medical students desirous of taking the Diploma of Public Health. The author claims to have reduced the clauses of the Acts to a simpler and less complex form, avoiding for the sake of his readers the tiresome obstacles to rapid study imposed in Acts of Parliament by cross references. At the same time he has naturally aimed at preserving the legal meaning of the original statutory text, and so far as this object can be attained consistently with extreme brevity, he appears to have succeeded. He has undoubtedly supplied in a very small compass a useful analysis well adapted for the purpose indicated, although those who make use of it must always bear in mind that it is an analysis only, and also that the analysis which they make for themselves from the actual text of the statutes that they have to master will (whenever time is possible) give them the best and most enduring knowledge of the matter to be assimilated.

Studien zur Pathologie der Entwicklung. Herausgegeben von Dr. ROBERT MEYER (Berlin) und Dr. ERNST SCHWALBE (Rostock). Erster Band, erster Heft. Mit 44 Abbildungen im Text und 3 Tafeln. Jena: Gustav Fischer. 1913. Pp. 196. Price 8 marks.—The pathology of development is a territory as yet little explored, and no two better editors could be found to guide and direct us upon a difficult journey. The subjects dealt with are the Methods and Value of the Comparison of Human and Animal Malformations, by E. Schwalbe; Contributions to the Doctrine of Fœtal Diseases of Bone, by H. Hässner; the Biological Relations between Mother and Child during Pregnancy, by Bruno Wolff; Vertebrate Hypermelia, by Dr. Pol; and Heredity of Hypotrichosis Congenita, by Dr. G. Luizenmeier.

The Propaganda for Reform in Proprietary Medicines. Eighth edition. Chicago: The American Medical Association. Pp. 375. Price, paper, 15 cents; bound, 25 cents. *Nostrums and Quackery.* Second edition. Same publishers. Pp. 708. Price $1.50.—The Council on Pharmacy and Chemistry of the American Medical Association publishes various volumes relating to all kinds of organised quackery in medicine. The "Propaganda," a volume of reprints from the Journal of the Association, is in four parts: (1) Council Reports; (2) Laboratory Contributions; (3) Miscellaneous Nostrums; and (4) Miscellany. "Nostrums and Quackery" consists also of reprints from the Association's Journal, and deals with various advertising specialists, mail order medical concerns, mechanical fakes, medical institutes and advertised cure-alls, cough medicines, food tonics, habit-forming nostrums and "cures" for headache, kidney troubles, constipation, rheumatism, seasickness, cancer, consumption, drunkenness and drug habits, "female complaints," obesity, rupture, diabetes, and so forth. Illuminating information can be obtained from these volumes about most, if not all, of the more dangerous of the patent remedies.

Australasian Medical Congress: Transactions of the Ninth Session, held in Sydney, N.S.W., September, 1911. F. ANTILL POCKLEY, M.D. Edin., President. 2 volumes. Published under the direction of the Literary Committee. Sydney: William Applegate Gullick. 1913. Pp. 1346.—Our Australian correspondent referred at some length to this congress in THE LANCET of Nov. 18th, 1911, p. 1440. The present volumes contain the communications in full with abstracts of the discussions. Even a mere enumeration of the papers would require more space than we can afford. Suffice it to say that the papers cover almost the entire field of medicine and medical economics.

THE LANCET.

LONDON: SATURDAY, JANUARY 24, 1914.

The Public Interest in Medicine.

ALLUSION has been made in these columns recently, and on more than one occasion, to the fact that the number of persons taking an intelligent interest in medicine grows apace; and, although this situation is full of promise, it is not without its risks. For how is the exact position of scientific medicine to be interpreted to the public with regard to any particular question in such a way that the message shall be alike sound pathologically and intelligible to those without technical training? Brief expositions of surgical achievements or medical aspirations—whether written in the definitely professional medical papers, where on occasions and for reasons they may sometimes be found, or in the lay papers, where they have become so common as to be almost of daily occurrence—are not yet so useful to the public as undoubtedly they will be when a larger number of persons receive as a matter of course some scientific training. At the present time there is no doubt that articles containing medical information or theorising, intended for public consumption, while the details of clinical treatment are under consideration, too often lead to the drawing of incorrect conclusions by the readers.

One reason for this is the necessity on the part of the journalistic author to say something definite, and this leads to statements which, however accurate taken by themselves, can with a very little gloss be made misleading to the public. Let us take as a concrete example any article upon medical treatment in a daily paper, founded upon undeniable information received from a medical man. The medical man, speaking quite honestly from his own experience, and having had successes in certain directions, communicates his results to a lay journal in response to an invitation to do so. We are not now commenting upon the propriety of the action. He may be supplying arguments on which there will be founded a charitable appeal, and how generous the support thus extended to medicine is we all recognise gratefully. Anyhow we are assuming that the medical man is acting with the single-minded desire to give to the world something the world would be the better for knowing, and that similar motives prevail with the newspaper. Neither the medical man nor the journal which obtained his assistance would be likely to claim epoch-making discoveries for the source of information; error arises in quite a different and perfectly honest manner. And in this way. The medical informant, knowing the work in the particular direction that has gone before, and possibly able to appreciate the kind of way in which it is going to develop, portrays the success of his particular procedure as one step in a long story. When the article appears in a lay paper, where there is no room to tell that story, isolated episodes wear, without any intention on the part of anyone, the appearance of important departures, with a promise of still greater developments for which no grounds are usually given, however solidly they may exist. Faithfully reported information, acquired from honourable sources and disseminated for the good as well as for the interest of the reader, may thus misrepresent pathological events by changing their proportional significance. So it can be when a responsible and well-informed lay organ is in question. But when less scrupulous newspapers seize on such events real harm is done. A new cure for "dumb ague," or "Stevenson's disease," is announced on the strength of a statement by one doctor that one procedure in one set of circumstances has been found useful. An imposing amount of attention is devoted to the past history and present exploits of the unfortunate practitioner whose work is now hailed as pioneer, while the medical profession is either puzzled by the praise bestowed on it for discoveries that have not been made, or irritated by the criticisms of those who reproach the profession for not having made these discoveries before.

It is not more medical learning which the public have to acquire before they can benefit by the dissemination of medical knowledge in lay journals. It is to a wider appreciation of scientific principles that we have to look for the remedy. New ideas of freedom and culture followed upon the dissemination of the teachings of Greek and Latin literature at the Renaissance, but the spirit of the new learning was not made more influential by the debates of philologists. What is wanted is a familiarity with the scientific aspect of things, which can only be acquired by a general grounding in natural philosophy. If the public were better prepared in this way they would be able to appraise medical achievement with more exactness.

A Research Institute in Edinburgh.

AT the annual dinner of the Royal College of Physicians of Edinburgh, which was held at the College on Friday last, Jan. 16th, an informal revelation was made of a great scheme now imminent for the foundation in Edinburgh of a research institute—an institute as a memorial to LISTER, who did so much of his wonderful work both as Professor of Clinical Surgery in the University of Edinburgh and as an extramural teacher. The scheme, as partially revealed at the dinner by Sir WILLIAM TURNER, the Principal of the University of Edinburgh, with the sanction in certain directions of the chairman, Dr. GRAHAM BROWN,

President of the Royal College of Physicians of Edinburgh, has got far beyond any preliminary stages. There is no question of whether the foundation of such an institute would be either a good idea or a feasible one. The institute is going to be founded, and already a sum of money is forthcoming, which, however small it may be in comparison with what will be required eventually, is so large, and so promising in its source of origin, that ultimate success is assured.

The source of this money is in itself a most interesting story of perfect concord between bodies where rivalry has not been unknown; its prompt subscription shows a complete unanimity of opinion on the part of medical, scientific, and intellectual Edinburgh that the foundation in that city of an institution for medical research is a right and even a necessary step forward. The institute when it arrives will be a fine example of evolution, progress certainly in great strides rather than by gradual steps, but none the less evolution. For some 25 years ago, or more, the Royal College of Physicians of Edinburgh founded a research institute whereat much admirable work was done from the beginning and continues to be done steadily. In this work the Royal College of Surgeons of Edinburgh soon began to take part, while later the financial strain, which was extremely heavy upon the parent body, was wonderfully lightened by the generous support of the Carnegie Trustees, who latterly have provided premises for the institute free of rent, while also largely meeting inevitable deficiencies in other directions. Out of the two facts that an institution existed which was carrying out admirable work, and that all the developments of modern medicine pointed to the immediate necessity of extending this work in the multifarious and far-reaching directions demanded by the pathology of to-day, arose the feeling that what so obviously should, and could, be done might as well be done at once. A success on the smaller lines emboldened all to the belief that a great scheme could be carried out and would result in incalculable good. The Royal College of Physicians of Edinburgh expressed themselves able to find a very handsome sum of money; the Royal College of Surgeons of Edinburgh were willing to afford substantial help; and the University of Edinburgh will support the movement munificently, receiving for this purpose a discretion from the Carnegie Trustees in respect of their grants to the University. It would be indiscreet at this juncture to say more than Sir WILLIAM TURNER or Sir CLIFFORD ALLBUTT said in their speeches at the dinner of the Royal College of Physicians of Edinburgh. Certain money resulting from the generous unanimity of purpose between the University and the two Royal Colleges can be found, and when in the course of a few weeks an appeal is made to the public to support the movement by finding the large sum that will be necessary for the purchase of a site, the building of suitable premises and the endowment of the work, the public will have the guarantee that the three bodies which will be immediately responsible for the practical output of the new institute have themselves subscribed, to the limit of their resources, a respectable fraction of the sum appealed for.

The deliberate impressiveness of Sir WILLIAM TURNER and the cultured eloquence of Sir CLIFFORD ALLBUTT may well be occupied in placing before the world the imperative necessity of scientific research; for although that necessity is recognised by all medical men, so that its advocacy may seem unnecessary, we have to remember that what those of us who are working in medicine see so clearly is not comprehended with the same definiteness by the public at large. And yet the financial support must come to a large extent either directly from the public or from bodies and institutions who owe allegiance to the public. It is most valuable, therefore, that the public, and especially those who are in one form or another the guardians of the public conscience or public purse, should understand that without large and well-endowed institutions for scientific research medicine cannot progress adequately. Hour by hour great public good, almost incalculable alleviation of human ills, is arriving through the application to every department of life of the teachings of scientific medicine. The Scottish folk have the reputation of being alike the longest- and hardest-headed section of our dominions; we are sure that in their metropolitan city they will live up to their character by supporting with acclaim the memorial to Lord LISTER, which has received so splendid a start at the hands of the University of Edinburgh and the two great medical corporations. It will appeal to their shrewdness that the government of the new institute—for so it is proposed—will be vested in the University and the Colleges, so that academic medicine and professional practice will be associated in its management, and an opportunity will always be present to draw upon the wisdom of the other faculties of the University, representing the voice of the educated nation.

Prince Arthur of Connaught has consented to become President of the Royal London Ophthalmic Hospital (Moorfields Eye Hospital), City-road.

THE CANCER HOSPITAL.—Post-graduate lectures on the Diagnosis and Treatment of Cancer will be held in the museum of the hospital on Wednesdays, at 5 P.M., as follows: Feb. 4th, Mr. Charles Ryall, Cancer of the Uterus; Feb. 11th, Mr. W. Ernest Miles, the Surgery of Cancer of the Rectum; Feb. 18th, Dr. Horder, the Value of Combined Treatment in Cases of Inoperable Cancer; Feb. 25th, Mr. Swan, Tumours of the Bladder; March 4th, Mr. Cunning, Tumours of Thyroid Gland; March 11th, Mr. Cecil Rowntree, Cancer of the Breast; March 18th, Mr. Wilson, New Growths of the Testicle; March 25th, Mr. Knox, the Roentgen Diagnosis of Internal Growths; April 1st, Mr. Leitch, Some Problems of Cancer.

Annotations.

"Ne quid nimis."

THE LATE LORD STRATHCONA.

WITH the death of Lord Strathcona and Mount Royal passes a great man, one whose memory will be held green by all members of the medical profession. Not only will they share with their fellow citizens in admiration for a man of indomitable courage and perseverance and inflexible uprightness, but still more, as members of a profession to which the subjects of education, the extension of knowledge, and its application to the relief of suffering are of paramount importance, they will feel grateful for his warm sympathy and munificent material support. Elsewhere eulogies on Lord Strathcona's patriotism and public services are being freely rendered. We may be pardoned for confining ourselves to a reference to the special qualities that should endear his memory to the medical profession. Let us recall that at the last International Medical Congress he showed his interest in and respect for medicine and the medical profession by giving a magnificent evening party at the Royal Botanical Gardens, which was attended by some 5000 members of the profession and their friends. This enormous number of guests was received individually by himself and by Lady Strathcona, whose loss some two months later was a blow from which he never fully recovered. His generous support of education and philanthropy is evident in the fact that his endowments to the McGill University amount to some £110,000; that, with Lord Mount-Stephen, he celebrated Queen Victoria's Jubilee in 1887 by providing £200,000 to build the Victoria Hospital at Montreal, which the same munificent donors later, in 1896, endowed with a further £160,000; that in 1896 he built and endowed the Royal Victoria College for the Higher Education of Women, at a cost of another £200,000; and that during his lord rectorship and subsequent chancellorship of Aberdeen University that ancient seat of learning benefited repeatedly by his munificence. Such being the worth and munificence of the man, well known throughout the world, the hall marks stamped on him sink into insignificance. Still it is a satisfaction to know that public and academic recognition was freely forthcoming. It will be a further source of gratification to the medical profession that his peerage is now intimately connected therewith, for by a special remainder it passes to his only daughter, the wife of Mr. R. J. Bliss Howard, F.R.C.S., of London, and her male heirs.

THE EARLIEST PRINTED MEDICAL BOOKS.

Sir William Osler is the first medical president of the Bibliographical Society, and it was fitting that he should choose for the subject of his presidential address before that society on Monday last the earliest printed medical books and the influence of the art of printing upon the art of medicine. Sir William Osler is well known as a lover and collector of ancient volumes, and those who attended the society's annual meeting not only heard an attractive discourse, but were also able to see and handle a number of early medical works and facsimile pages, arranged round the lecture room in chronological order. The period chosen for discussion and illustration was from the dawn of printing to the year 1480 A.D. This was the century of Columbus and Guttenberg, but, as the president put it, it was a sterile medical century. Hence the earliest printed medical works are of greater typographical than scientific interest. At that time the Arabian medical authors, notably Avicena, completely dominated medical thought and practice, and humoral pathology held the field; no work of Hippocrates or Galen was printed up to 1480, and only one commentary of each was published in type. The earliest known piece of medical printing is a single sheet medical calendar for popular use, printed at Mainz about 1457 by the printer of the 36-line Bible. Many such so-called calendars were circulated at this period, and their teaching is strongly flavoured with astrology. In considering the influence of Arabian medicine (which left a more permanent mark upon pharmacy than upon medical practice) Sir William Osler remarked on the enormous popularity of the writings of Avicena, whose sway lasted for centuries. His works were frequently reprinted from 1472, and innumerable commentaries appeared. In 1470 was published the first dictionary of treatment in one volume, the kind of thing, said Sir William Osler, which medical men with a liking for penny-in-the-slot treatment still call for and obtain; but the first work of this sort was also the best, for it gave many more drugs for each disease than any later rival. Speaking of the fascination of early volumes and the interest which the bibliophile finds in the biography of books, the president reminded his hearers that all books can be dated by the expert, who can tell almost at a glance from internal or external evidence when they were written and when printed. So too, he added, he himself could place in its correct decade any leading article on pathological medicine which had appeared in THE LANCET since, say, 1860. With this personal touch we must leave the recollections of a delightful and instructive afternoon.

RINGWORM CURES.

FROM time to time cures for that intractable disease, ringworm, are published, and it is usually claimed by those who devise these cures that they are infallible, though no such claim is made in this issue of THE LANCET by Dr. C. Hughes Foley in a clinical note. The disease shows little tendency as yet to diminish in frequency, in spite of the far more general and drastic attempts to eradicate it. The elaborate method of treatment by the X rays holds the field, though the "cures" under much more simple methods multiply. It is certainly curious that some of these rapid methods of cure of ringworm emanate from those who will frankly confess that they have not a very large experience of the disease, and not from dermatologists. At least one cause of this situation is undoubtedly the fact that there are various forms of ringworm, and that some of these are much more easily cured than are others. Dr. Foley's interesting account of a new and simple treatment of ringworm is a good example of this, for the author tells us that in most of his cases the patients were infected by handling cows and calves. The treatment consists in painting the part with a strong solution of iodine and then spraying with ethyl chloride, and we congratulate the author on its

efficacy. But we must remember that the ringworm which most commonly affects cows and calves is due to the Megalosporon ectothrix, and that this is the form of spore which is most readily killed. We welcome the contribution, for it may be that the method our correspondent describes may prove efficacious in other and more obstinate forms of the disease, but the evidence at present available is insufficient.

KITCHEN PHARMACOLOGY.

THAT certain articles of food commonly used in the daily dietary possess a medicinal value becomes evident when we review the number of plants or vegetables which are included in the list. It is erroneous to suppose that all the articles which go to make up a meal serve merely as nutrients, for when the peculiar composition of some of them is considered there will be found principles present of the nature of medicines. It is not improbable that amongst these constituents are some which are entitled to rank as active principles in the same way as are the principles found in the drugs of the pharmacopœia. It must be admitted, however, that the pharmacology of vegetables has not received the scientific attention which has been given to drugs, and many medicinal virtues which are claimed for certain vegetables rest upon tradition rather than on laboratory inquiry. The fact, however, remains that definite principles do occur in many articles used for food, and that it is probable that they possess accordingly a pharmacology of their own, apart altogether from the question of their rôle as nutrients. To give some illustrations, claims have been made in favour of a medicinal action exercised by the onion, leek, or garlic. Onions eaten at night, said Frank Buckland, are soporific and promote sleep. They also are known to have a diuretic action and to produce perspiration. Amongst other things they are many a housewife's remedy for coughs and colds and a help to gastric digestion. The pharmacology of the onion probably rests chiefly on the presence of a powerful sulphur oil—allyl sulphide—which has marked stimulating properties. Onions also are credited with being useful in allaying the pains of rheumatism, and it is interesting to remember the use by medical men of sulphur in some form or other in that disease. The turnip, parsnip, and swede contain a peculiar oily principle which may account for their traditional value as an aperient and diuretic, while their juices are an old country remedy for coughs and hoarseness. The presence of starch and sugar would hardly account for these properties. The potato, of course, possesses a decided nutritive value, but it also contains principles, amongst which is solanin, that are credited with diuretic and aphrodisiac properties. The common cabbage is redolent with a sulphur compound which may possibly account for the value attached to it in scurvy and scrofula. Spinach is a well-known laxative—a property, however, which may be ascribed to the fine indigestible fibre which characterises it. There is present also a peculiar principle as well as a quantity of iron in organic form. The tomato exercises medicinal effects which are not completely explained by the presence of alkaline salts. There is a principle present which when taken in a concentrated state produces salivation and a free stimulation of the liver. On this account the tomato has been called vegetable mercury, and an official tincture is prepared in America. Carrots have a similar action, and form a considerable part of the meals at certain health resorts in the belief that they materially assist in the treatment of derangements of the liver and of the biliary processes generally. As a dressing carrots have been used to mitigate pain and to sweeten surfaces. The vegetable contains a definite principle, carrotin, and a volatile oil which may possess properties that have supplied the traditional curative qualities. The list could be extended, but the foregoing examples serve to show that we may reasonably expect a definite medicinal action resulting from the ingestion of certain vegetable foods. It is also apparent that this action may be related to the definite principles which are known to exist in many of them, and so the kitchen may reasonably be rated as, to some extent, a dispensary of medicines.

BURNS OF THE EYE DUE TO THE CONTENTS OF GOLF BALLS.

IN the *Journal of the American Medical Association* of Dec. 27th, 1913, Dr. H. Lowell has called attention to the serious injuries to the eye, resulting in loss of vision, which may be produced by the contents of a golf ball. During the last few years such cases have been reported from all over the United States. A child finds an old golf ball with its covering partly removed. He removes the rest of the cover and rubber, and then comes on the core, which he bounces till it bursts or cuts it open with a knife. The contained fluid spurts over him and into his eyes. This fluid is highly caustic. Analysis shows that in some cases it consists of barium sulphate, soap, and free alkali; in others it is a solution containing zinc chloride. The following are some examples of the results. A girl, aged 9 years, was admitted into the Massachusetts Charitable Eye and Ear Infirmary on Sept. 1st, 1911. Three days before while cutting open the core of a golf ball the contents spurted into her left eye. On examination there were much chemosis and swelling of the conjunctiva. The lower fornix was practically obliterated and the cornea was diffusely whitish and hazy. On Sept. 3rd there was hypopyon filling a third of the anterior chamber and the Saemisch operation was done. On Sept. 8th the cornea was clearer above and the hypopyon was less. On Oct. 12th the cornea was only a little clearer, the hypopyon had disappeared, and there was only slight circumcorneal injection. On the 14th she was discharged with vision in the left eye *nil*. A girl, aged 11, was admitted on Oct. 23rd, 1912. On the 19th while playing with the core of a golf ball it ruptured and the contents spurted into her right eye. The upper lid was bound down to the cornea by cicatricial tissue and there were much pain and photophobia. The lid was peeled from the cornea and Cargile membrane was applied to the conjunctival surface. In June, 1913, the cornea was fairly clear towards the periphery, but there was a marked central haze. Vision was 20/200. A boy, aged 13 years, was admitted on April 11th, 1913. Three days before he opened the core of a golf ball with his pocket knife and the fluid squirted into his right eye. The whole eye looked as if covered with a diphtheritic membrane, and neither the cornea nor the iris could be made out. There were considerable photophobia and swelling of the conjunctiva and lids. After 12 days the membrane had disappeared, leaving the outer third of the cornea clear. Hypopyon appeared about the sixteenth day, and the Saemisch operation was done. On May 29th, when he left the hospital, he

could see only shadows. On Oct. 4th the outer and upper fourth of the cornea was clear; the rest was densely leucomatous. There was a large symblepharon from the lower corneal margin to the lower fornix. The United States Golf Association has issued a warning against the dangerous practice of cutting open golf balls, and a Bill has been introduced into the legislature of the State of Massachusetts to prohibit the sale of golf balls containing any caustic fluid.

ACTINOMYCOSIS AND PUBLIC HEALTH.

AN entirely new phase in the history of actinomycosis is now being entered upon as the result of the investigations and conclusions of the medical officers of health of the City and Port of London.[1] These officers find that there is a very considerable traffic in ox tongues from the Argentine Republic, and that a somewhat large proportion of these, about 5 per cent., are affected with actinomycosis either in the blades or in the attached glands. They conclude, therefore, that until action is taken in the Argentine which will ensure that these tongues are carefully examined and the affected ones withdrawn, steps must be taken in the interests of the public health to inspect and regulate this traffic. Though the granules so characteristic of actinomycotic pus were known to Langenbeck and Lebert, and were carefully described by Robin in 1871 as occurring in certain "abscès anciens," it was not until the investigations of Rivolta, Perroncito, and Bollinger during the years 1868–77 on the disease as met with in cattle, that it was recognised as of parasitic nature, and several more years elapsed before the identity of the disease as met with in men and cattle was postulated by Israël and Ponfick. This identity is, however, not admitted by all observers, and there are still lacunæ in our knowledge which, as is suggested in the report we are considering, require to be filled by further investigations. There are certainly a number of varieties of streptothrix found in diseases clinically resembling actinomycosis, some of which are aerobes and some anaerobes, but whether all cases of true actinomycosis in man are caused by the anaerobic form, or whether this holds for the majority of cases in certain localities only, and whether the forms of streptothrix found on fodder grasses are identical with those producing the disease in man and cattle—a convenient and natural assumption—these still remain subjects for investigation. Harbitz and Gröndahl[2] regard the aerobic forms cultivated from plants as differing from the forms found in human disease, and they could not infect experimental animals with these forms. It is certain that human actinomycosis is not the rare disease which at one time it was thought to be, and is met with fairly often in hospital practice, though, owing to the lack of characteristic symptoms, the cases usually masquerade under many diagnoses before their true nature is settled by bacteriological examination. The grounds on which the imported tongues are to be condemned is that they are diseased; the report is careful to state that there is no proof that there is danger of infection, or any evidence that the disease spreads from cattle to man, or even among cattle themselves. There was also no proof or suggestion that the organisms found in the tongues were living. The occurrence of the disease, usually in relation to the gastro-intestinal tract, would naturally cause suspicion to attach to food as a means of infection. Attention is drawn to the difficulty of distinguishing in some cases between the lesions of actinomycosis and tubercle; the search for tubercle bacilli in these cases gave no positive results. The relation of actinomycosis to tuberculosis is, of course, intimate and of great interest, and has been insisted upon and elaborated by Mr. A. G. R. Foulerton in his recent Milroy lectures before the Royal College of Physicians of London.[3] It is partly on account of this connexion, but chiefly because a large percentage of the tongues are affected in the glands alone, that the report suggests a regulation rendering tongues without roots and glands liable to re-exportation. This question of actinomycosis in cattle is obviously entering upon a very interesting and important phase.

[1] Actinomycosis of Ox Tongues Imported from the Argentine Republic. Report of Medical Officers of Health for the City and Port of London. Nov. 13th, 1913.

[2] THE LANCET, Oct. 21st, 1911, p. 1152.

THE OCCURRENCE OF UNILATERAL VISUAL HALLUCINATIONS AND MACROPSIA IN A CASE OF CEREBRAL TUMOUR.

Dr. Arnold Josefson, of Stockholm, has published in a recent number of the *Deutsche Zeitschrift für Nervenheilkunde* an interesting case of intracranial tumour in which unilateral visual hallucinations and macropsia formed the chief and localising symptoms. The patient was a woman who began gradually to suffer from intense headaches, situated in the occipital region. Some months later the acuity of her vision commenced to diminish, and not long thereafter giddiness and sickness developed. Her memory for recent events began to fail, and then definite visual hallucinations made their appearance. The patient said they took the form of stars, brown leaves, rings, &c., and that they were always localised in the right visual field. Many of these hallucinatory objects were noted by her to be very much larger than real objects of the same nature would have appeared. On examination it was found that there were double optic neuritis and right homonymous hemianopia. In addition, there was a slight degree of mind-blindness, and possibly also of alexia. It was also noted that the patient's ideas of distance and perspective were very much at fault. During the examination she frequently remarked: "The room seems so big," "The doctor seems so tall and his face so large." Not long thereafter the patient died, and at the necropsy a tumour was discovered in the occipital lobe of the left side, its posterior limit about one and a half centimetres from the occipital pole, extending forwards in the substance of the lobe to the lateral ventricle, into the wall of which it bulged. The anterior part of the lower margin of the calcarine fissure was invaded by tumour growth; the lingual gyrus was also invaded. Microscopically the tumour was a glioma. Among the interesting features of this case is the occurrence of macropsia. It is, of course, well known that macropsia and its opposite, micropsia, are found with certain peripheral lesions of the visual system. Paralysis of accommodation may produce the latter, accommodation spasm the former. The phenomena are by no means rare, further, as an aura in epilepsy, and in such cases, no doubt, the condition is of central origin. It has been remarked in hysteria, and there also

[3] THE LANCET, vol. i., 1910, pp. 551, 626, 769.

the cause must be some central disturbance. Not a few organic cases have been recorded, either of micropsia or macropsia, where the lesion was certainly in the visual or visuo-psychic area of the cerebral cortex (Henschen, Uhthoff, Oppenheim, and others), and this case adds one more to the list. The exact localisation of the phenomenon, however, is by no means determined. Whether it is associated with the degree of mind-blindness from which the patient suffered is not proved. It is known that in that condition disturbances of stereoscopic vision may occur; in Oppenheim's case, however, micropsia was noted in the absence of any form of mind-blindness.

AN EARLY SYMPOSIUM ON VACCINATION.

IT is perfectly natural that in the opening years of the nineteenth century, when vaccination was still on its trial, there should have been numerous searchings of heart among old-fashioned medical men as to the efficacy of the new method. Vaccination at first, through being imperfectly understood by the operator, occasionally failed of its object, and we find a certain Dr. John Birch, of Spring Gardens, writing to the Royal College of Surgeons of England in 1807 to say that he believed the practice was decreasing in London, and citing at the same time a number of cases of so-called failure—i.e., the case of Rebecca Latchfield and those of Mr. Watts's children and the inmates of Lambeth Workhouse. But what really strikes the student of old reports on vaccination is the overwhelming unanimity of their writers in favour of Jenner's discovery. In 1806 a number of questions on vaccination were submitted to practitioners throughout the country, and were answered, tersely in most cases, but almost always in favour of what was still regarded as an experiment. The replies of Benjamin Brodie and John Abernethy are notable. The former, at that time assistant to Sir Everard Home, answers very briefly to the effect that he has vaccinated about 100 persons and has heard of no case of small-pox being caught by any of them subsequently. He knows of no case of ill-effects following vaccination. He says emphatically, "None whatever." His letter is dated from Home's house in Sackville-street (Dec. 28th, 1806). Abernethy, whose pupil Brodie had been, writes, using capitals in the eighteenth century manner. His replies are characteristic of the man.

1. How many Persons have you vaccinated? Abernethy: "I believe more than 200."

2. Have any of your Patients had the Small Pox after Vaccination?—in the Case of every such Occurrence, at what Period was the Vaccine Matter taken from the Vesicle?—how was it preserved? How long before it was inserted?—what was the Appearance of the Inflammation?—and what the Interval between Vaccination and the Variolous Eruption? Abernethy answers as follows: "Almost the whole of my Inoculations was done by way of ascertaining the Truth of Doctor Jenner's Assertions and Opinions and shortly after his first publication. I could not believe that the Action of so mild a poison as the vaccine could exempt the Constitution from the Influence of so potent a Contagion as the Small Pox; but though I tried by repeated inoculations and by exposing patients in Air which actually stank with variolous effluvia, I could never communicate that disease to persons previously vaccinated. It was upon the Ground of these Experiments, that I subscribed my name to a paper recommending vaccine inoculation to the public. Since that Time my Experience has been very limited as I have only inoculated the children of a few of my friends. I have not heard of any failure in these or former cases."

In answer to the question, "Have any bad effects occurred, in your Experience, in Consequence of Vaccination?—and, if so, what were they?" Abernethy merely answers, "None." "I do not know," he replies in answer to the fourth and last question, which is to this effect—"Is the Practice of Vaccination increasing, or decreasing, in your neighbourhood?—if decreasing, to what Cause do you impute it?" The document is signed "John Abernethy, Bedford Row, 31st Decr., 1806."

A TETANIC FORM OF URÆMIA.

VERY few cases have been published of a form of uræmia simulating tetanus, and these leave much to be desired. They belong to a period anterior to the use of modern methods of examination, such as lumbar puncture and estimation of the amount of urea in the blood and cerebro-spinal fluid. The rarity and unsatisfactory nature of the records have led Professor Chauffard to doubt the existence of this form of uræmia. Hence the importance of the following case reported at a meeting of the Société Médicale des Hôpitaux of Paris on Nov. 14th, 1913, by M. A. Bergé and M. Pernet. A single woman, aged 61 years, was taken to the Broussais Hospital on Sept. 10th, 1912, in a state of "generalised contracture" which had followed a fall. She was first admitted as a surgical case, but as the surgeon could find no wound and the accident appeared to have been trivial she was transferred to the medical side with the diagnosis of tetanus. The history was that she had been in good health until ten days previously, when she fell on the stairs. Eight days later she was attacked with trismus, slight dysphagia, and stiffness of the neck. On admission she was perfectly conscious, and was positive that she never previously suffered from any disease. On examination there was generalised rigidity, the head was retracted and buried in the pillow, the jaws were clenched, and the abdominal muscles were tense, giving to the abdomen a wooden feeling. The lower limbs were contractured in extension; the adductors stood out like tense cords. The upper limbs were slightly contractured in flexion. At intervals attacks of slight opisthotonos occurred. On attempting to flex the head the whole body was raised from the bed. There was no risus sardonicus. The eyes were kept constantly shut, but could be easily opened. The patient suffered no pain. The pupils were not contracted and reacted normally. The pulse ranged from 100 to 120, and the temperature from 98·6° to 100·4° F. There was incontinence of urine. The physician in charge of the case, in the absence of M. Bergé, diagnosed tetanus, and gave several injections of antitetanic serum, but the symptoms persisted. On Sept. 16th M. Bergé saw the patient for the first time and agreed with the diagnosis. She was then a little somnolent. On the 17th she became comatose and there was a remarkable change in the condition of the muscles. The lower limbs could easily be flexed and the abdomen was relatively supple, but there was slight rigidity of the upper limbs and the neck was still very rigid. The trismus had disappeared. The eyes were sunken and the conjunctivæ were almost insensitive. The pupils were not contracted and did not react to light. There was Cheyne-Stokes respiration with long pauses during which the patient appeared to be dead. The knee-jerks were normal and Babinski's sign was not present. The pulse was 100 and the temperature 101·3°. This great change in the patient's condition—the coma,

Cheyne-Stokes respiration, and attenuation of the contractures—raised a doubt as to the diagnosis of tetanus and suggested uræmia. Urine obtained by the catheter contained a large quantity of albumin and no sugar. Lumbar puncture yielded a clear fluid which was not under increased pressure and did not contain excess of albumin or leucocytes. It contained 3 grammes per litre of urea. Death occurred in the evening. At the necropsy no cerebral lesion was found. There was œdematous congestion of the lungs. The heart weighed 270 grammes and there was no notable hypertrophy of the left ventricle. The kidneys were small and atrophic and their capsules were adherent. The left weighed 95 and the right 98 grammes. The surface was granular. On microscopic examination they showed advanced atrophic sclerotic nephritis. The medulla of the patient was emulsified and injected into guinea-pigs, which did not react in any way. In this case the simulation of tetanus was complete; only the absence of pyrexia could have raised any doubts as to the diagnosis. The only alternative to attributing the symptoms to uræmia is to suppose that tetanus coexisted with the nephritis, but this is excluded by the apyrexia and the negative result of the injection of the guinea-pigs.

THE FOURTH CONGRESS OF THE INTERNATIONAL SOCIETY OF SURGERY.

THE Fourth International Congress of Surgery, which will be held in New York from April 13th to 16th, will miss the stimulating presence of Dr. Lucas-Championnière, who presided at the Third Congress held in Brussels in 1911. Doubtless, however, Professor Depage, of Brussels, to whose energetic work as secretary the undoubted success of the last Congress was largely due, will adequately replace that distinguished surgeon whose loss the surgical world has so recently had to mourn. It is arranged that the steamer *Imperator* shall leave Hamburg on April 2nd, calling at Southampton and Cherbourg *en route* for New York, while the *Rotterdam* will leave Rotterdam on April 4th, calling at Boulogne. The steamers are timed to arrive in New York on April 9th and 12th respectively. The Congress will be opened on April 13th at 11.30 A.M. in the Hotel Astor by the President of the United States. The scientific proceedings will begin at 2.30 that afternoon with the discussion on the Surgery of Gastric and Duodenal Ulcer. On the 14th the reports on Grafting and Transplantation, and on the 15th those on Amputations will be read and discussed. During the Congress operative demonstrations will be given in the different hospitals. Only members of the society, which now numbers some 600 of the world's leading surgeons, can take part in the discussions, but the meetings are open to non-members, and it has been decided that foreign surgeons who are not members shall be permitted, on the recommendation of the delegates of their respective countries, to share in the special arrangements made for the journey. In commenting on the last Congress in THE LANCET of Oct. 21st, 1911, p. 1148, regret was expressed that there was not a much larger attendance in the British section, only 24 being present. We hope that British surgery will be more adequately represented this year. Among the entertainments provided are a special (invitation) luncheon, tea, and dinner on the opening day, a luncheon given by Mrs. Mayo for the ladies and a soirée on the 14th, a subscription banquet on the 15th, and from the 16th to the 28th excursions to Philadelphia, Baltimore, Washington, Chicago, Rochester, Buffalo, Niagara Falls, and Boston. The probable date of departure for Europe is April 28th. Further particulars can be obtained by those interested on application to the Secrétariat Général, 78, rue de la Loi, Brussels.

PSYCHIC EPILEPSY OCCURRING WITHOUT OTHER EPILEPTIC PHENOMENA.

IN the *Journal of Nervous and Mental Disease* for September, 1913, Dr. George E. Price, of Philadelphia, describes the case of a man, aged 42, in whose family history nothing of significance had occurred beyond the insanity of a maternal grandfather, whose symptoms came on after a period of very hard mental and physical work. He was heard by his wife one evening to be snapping an empty revolver in an adjoining room, and when she entered it she found him confused and under the delusion there was a man in the room whom he was trying to shoot. In less than an hour the symptoms disappeared, to be followed, however, by severe headache and sleepiness. During the next month some seven similar attacks occurred, some lasting not much longer than 15 minutes, in all of which the patient was confused and suffered from a vague delusion that there was a strange man in the room. The attacks were always followed by headache, and he had no subsequent recollection of them. As the attacks were becoming more frequent the patient was removed to the Jefferson Hospital and subjected to a full course of bromides. Great improvement resulted, and the "fits" entirely disappeared. In all of them which were observed in hospital it was remarked that the patient's face was suffused. The essential features of the attacks were clouding of consciousness, disorientation, delusions, absolute amnesia, a certain amount of sameness and automatism in the phenomena, and the subsequent severe headache and somnolence. From a consideration of the facts Dr. Price regards the symptoms as those of a true psychical equivalent of epilepsy, although there is no history of convulsive seizures in the patient or in his family. If the mental disorder occurs as the sole manifestation of epilepsy, obviously the diagnosis may be attended with some difficulty. In the present instance, however, there seems no good reason to doubt the accuracy of Dr. Price's view of the case, which is of some medico-legal importance, even though the patient did not actually come in contact with the law. A number of instances of pure psychic epilepsy have already been recorded in the literature.

TREATMENT OF ANKYLOSTOMIASIS.

ANKYLOSTOMIASIS causes the world enormous economic loss. Not so immediately and obviously fatal as plague or sleeping sickness, it yet accounts for much of the unsatisfactory work which is proverbially all that is achieved by many natives in the tropics, and beyond. It attacks myriads of bare-footed labourers in the Southern States of the Union, in Brazil, West and East Africa, India, the Straits Settlements, and in the islands of the South Seas. We recently mentioned that of 127 bodies serially examined post mortem in German West Africa 114 (93 per cent.) showed ankylostoma infection. Besides, as we know, the disease occurs in Europe, even in England. Not only is

the working efficiency of its victims greatly reduced, extinguished even, but many of them require prolonged hospital treatment. Thus Dr. R. D. Keith recently[1] described in our columns cases which had to be kept in hospital for six months continuously. It is very important that for a disease so frequent the best and most speedy treatment should be known, and we therefore welcome a paper by Staff-Surgeon Dr. Greisert,[2] which summarises the reports of the surgeons in German East Africa, who had each at the request of the Government treated some hundred cases by four different drugs—beta naphthol, thymol, eucalyptus oil, and male shield fern. Dr. Greisert concludes that this last is far too expensive and unreliable for use in the tropics, and besides has no conspicuous superiority over the others. Eucalyptus oil similarly fails to commend itself, and of the other two, thymol is expensive, unpleasant to take, may cause serious or even fatal accidents, and produces no better results than does beta naphthol. Consequently he recommends this latter, and advises the following simple procedure. A purge may be ordered the night before, then 45 grains (3 grammes) of beta naphthol are given on each of three successive mornings, and it is better that the drug should be fresh. It is not unpleasant to take, patients not seriously ill need not be taken off duty, the period under treatment is short, there are no complicated rules for administration, and no troublesome sequelæ; so that the treatment can be taken in charge by laymen—for example, by planters, and the cost of the treatment, very important when coolies have to be dealt with by the hundred, is small, about 6*d*. It does not, like thymol, kill the other intestinal parasites, but santonin or other vermifuge may be administered simultaneously.

THE SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

THE Society of Tropical Medicine and Hygiene has now taken a room from the Medical Society of London at 11, Chandos-street, Cavendish-square, London, W., for its permanent quarters. Fellows will now therefore be able to use this room from 10 A.M. to 5 P.M. daily, both for reading and for the examination of microscopical specimens. A certain number of exchange publications lie upon the table, and the late Dr. Carnegie Brown's bequest of books forms the nucleus of a small library. These works can also be consulted. It is hoped that Fellows upon arriving home from abroad will make use of the room and also record their home addresses there. By so doing men from different colonies will be able to come into touch with each other, and so exchange ideas. Up to the present time the lack of such accommodation has been felt by many, and the Society hopes, now it has been able to get permanent quarters, that this want will be suitably met.

WE are informed that Mr. A. H. Tubby has been elected a corresponding member of the Société Française de Chirurgie.

[1] THE LANCET, Oct. 18th, 1913, p. 1117.
[2] Archiv für Schiffs und Tropen-Hygiene, November, 1913, p. 765.

HEALTH WEEK COMMITTEE.—The Lord Mayor of London has consented to act as chairman of the General Committee for promoting the Health Week, which will be held from Nov. 15th to 21st, 1914, under the auspices of the Royal Sanitary Institute.

MEDICINE AND THE LAW.

A Medical Man and his Servants: A Question under the National Insurance Act.

AT Stafford Dr. F. M. Blumer was summoned recently for failing to pay a contribution under Part I. of the National Insurance Act in respect of T. Albert, his chauffeur. Dr. Blumer, who defended himself, contended that he was willing to undertake the medical attendance that his servant might require, and that Albert had applied to the Insurance Committee for permission to make his own arrangements. This had not been refused, but had been made conditional upon the defendant's acceptance of the obligations imposed by Form 43. He had refused to bind himself to comply with Form 43; the matter had been referred to the Insurance Commissioners who declined to intervene, and he contended that it was *ultra vires* of the Commissioners to compel him to give the undertaking required by Form 43, or to make his doing so a condition for allowing his servant to make his own arrangements for medical treatment. In consequence of the refusal of Albert's application in the circumstances indicated, and as a protest against the conditions sought to be imposed, the defendant had ceased to pay contributions under the Act in respect of Albert, although paying them in respect of other servants, and although recognising fully that they would have to be paid eventually. He had, in fact, deducted the man's contributions from his wages while not stamping his card, a course which the prosecuting solicitor referred to as a dangerous one, involving the possibility of a further charge. The defence therefore resolved itself into the question whether the conditions imposed by Form 43 were *ultra vires*, and in particular those relating to the keeping of records, to which Dr. Blumer objected as impossible to comply with. The clerk to the Insurance Committee expressed the opinion that the form was provided as a draft agreement only, which need not be adopted in every detail, but that the clause relating to keeping records must be adopted if the full grant from the Commissioners was to be obtained, and further, that whether the form was *ultra vires* or not, the obligation to pay contributions under the Act was not affected. The magistrates appear to have adopted this view, as they stated at the close of the hearing that they had decided by a majority to convict. They considered that Dr. Blumer had believed that he had a good defence, and so imposed a nominal penalty of 1*s*. with costs, and ordered the payment of all arrears. Dr. Blumer intimated that he would comply with this decision, and that the case would go no further. In comment it may be submitted that, whether the point in question was a good one and was properly raised by the refusal to pay contributions or not, the Insurance Commissioners should give their consideration to the following. As administrators of the National Insurance Act responsible for the provision under it of the best available medical attendance for the insured, they have had recently under their own regulations (1) the above case, in which a medical man willing to attend his own servant, who desires to make his own arrangements, has been so hampered with what he regards as impracticable and harassing conditions that he has declined to be bound by them; and (2) the case referred to recently at

Worcester[1] in which persons, also desiring to make their own arrangements for "medical treatment," have been freely permitted to do so with an unqualified person described as a "herbalist."

Eugenics and Cheap Certificates in the United States.

In the State of Wisconsin a law framed to promote eugenic marriages has had the effect of putting an end temporarily to weddings of all kinds. It prescribes a medical certificate based upon the Wassermann test as a necessary preliminary to every union, and fixes the fee at which the medical man consulted is to supply the required document at what would amount to 12s. in our coinage. Those acquainted with the purchasing power of money in the United States will estimate the value of such a fee, and the medical profession has refused in a body to accept it. The aid of the law courts is being invoked owing to the attitude of the medical men, and it is pointed out that not only would the application of the Wassermann test be part of the consideration for the payment of 12s., but that in the whole of Wisconsin not more than 25 practitioners would be found capable of applying it.

Medical Witnesses and the Obligation to be Present.

In a recent case at the Old Bailey two medical witnesses had their expenses disallowed on account of their having been absent when their presence in the witness-box was required. In both instances they had been under the impression from a notice in the newspaper that the case in which they were to give evidence was not going to be heard at the time named in the notice, but was only to be made the subject of an application to the court. The police, however, had warned them that they ought to be ready to be called. One of them, Dr. F. S. Toogood, medical superintendent of Lewisham Infirmary, had also been summoned to give evidence in a county court, and had gone there, but Mr. Justice Bailhache intimated that the Central Criminal Court was the superior court, and that if either had to be neglected it should have been the county court. Medical men will note the importance of not disregarding any obligation imposed upon them as witnesses, even though it entails the greatest inconvenience to them, as admittedly it may do. At the same time, in these modern days of telephones and motor-cars, it should be strenuously urged upon the authorities that it is not necessary to keep witnesses of any kind hanging about to their inconvenience and pecuniary loss, if they are willing to fall in with arrangements for summoning them as soon as it is reasonable to insist upon their presence.

The Children Act, 1908, and a Parent's Refusal to have Adenoids Treated in a Child.

In the case described under the above heading in THE LANCET of Nov. 22nd, 1913, p. 1490, the Divisional Court held that the justices were wrong in dismissing a charge under the Children Act, 1908, made against Ishmael Jackson, a dealer, at Melton Mowbray police court. On the case coming again before the bench for reconsideration under the above judgment a penalty of £2 was imposed.

THE LANCET, Nov. 15th, 1913, p. 1406.

HARVEIAN SOCIETY OF LONDON.—A meeting of this society will be held on Jan. 29th, at 8.15 P.M., at St. Mary's Hospital, W., when a large number of clinical cases will be shown. There will also be demonstrations on actinomycosis, carcinoma of œsophagus and radium therapy, and the use of artificial pneumothorax in phthisis.

LEAD CONTAMINATION OF A WATER-SUPPLY.

ONCE again a peaty moorland supply of water in Yorkshire has proved to be a source of lead poisoning through its action on the lead service pipes. In August, 1913, Dr. W. W. Stainthorpe, medical officer of health for the combined sanitary districts of Guisborough union, reported to the Local Government Board that a number of persons in that district were suffering from illness the symptoms of which suggested lead poisoning. It was further suspected that this illness was due to the presence of lead in the water supplied to the town. The matter has since received the attention of the Local Government Board, which instructed Dr. Frank R. Seymour to visit the district. His report has now been published, from which it appears that before 1912 the possibility of some action of the water on lead was recognised, since the company supplying it adopted a treatment with a view of preventing such action. Analyses had shown that the water as supplied to the consumers either contained lead or was capable of acting upon that metal. Sand filtration was originally adopted for removing organic impurities, but no precaution was taken in regard to negativing the action of the water upon lead until treatment with lime was begun in 1911. Apparently the lime treatment was not established on a uniform basis, for sometimes the public supply proved to exhibit an acid reaction. In other words, both the water and the treatment were subject to independent variations, and it is therefore probable, as Dr. Seymour writes, that "water having in a relative sense a considerable power of acting on lead may have been admitted to the town mains." At all events six samples of the treated water taken under these conditions had no solvent action on lead, although three of them had relatively considerable "erosive" actions. It is a remarkable fact that more cases of lead poisoning were discovered in the town since lime treatment was commenced than had occurred during the years preceding the treatment. Dr. Seymour says that it is difficult to account for this merely by the supposition that acid water was sometimes admitted to the town mains in spite of the treatment, and he suggests that some circumstances hitherto unconsidered must have been at work which tended to increase the plumbo-solvent power of the water. From this inquiry it would seem that treatment with lime, if consistently carried out, will effectively remove the acidity of water to which it owes its plumbo-solvent power, but it is unfortunately possible that as a result of treatment the destruction of plumbo-solvency may be more than counterbalanced by increased ability to "erode" lead. Dr. Seymour suggests that the water company at Guisborough should in future employ a competent analyst for a period sufficient to enable him to devise and carry out a series of differential experiments. These, he considers, should be made in reference both to plumbo-solvency and to plumbo-erosive ability and extend over some considerable time, so that the nature of the water at different seasons of the year in storm and in drought may be fully investigated. There is a suggestion also to supplement the lime treatment with carbonate of soda. We may point out that this would in effect amount to adding caustic alkali, since carbonate of

soda added to lime would produce caustic soda and carbonate of lime. We think the addition of sulphate of lime would be an interesting experiment in this case, since this salt is slightly soluble in water, and in reacting on lead would produce insoluble sulphate. It may be added that sulphate of lime is a common constituent of most water-supplies which have no solvent action on lead.

MEDICAL AND SANITARY ADMINISTRATION IN THE GERMAN COLONIES DURING 1910–11.

THE annual reports issued by the Imperial Colonial Office at Berlin respecting the medical service of the German colonies are always full of instructive and interesting information.[2] The amount of details given in these reports increases year by year, and the report now before us runs to no fewer than 808 pages. The following are the colonies dealt with in it—viz., German East Africa, the Cameroons, Togoland, German South-West Africa, New Guinea, the Caroline, Marshall, and Palau Islands, and Samoa. These seven colonies have a combined population of about 15 millions, of which upwards of 7¾ millions are included in German East Africa, which is therefore the principal colony belonging to Germany. As considerations of space will not permit us to refer to the medical and sanitary details of each colony we will confine our observations to German East Africa, the report on which occupies about 400 pages of the present volume; it well illustrates the thorough manner in which the treatment and prevention of disease are carried out in Africa by our German cousins.

German East Africa.

The medical and sanitary staff employed in this colony, which comprises an area of 384,079 square miles, includes official and non-official members. To the first of these classes belong the medical officers of the native colonial troops and the German military surgeons serving in East Africa; also the Government civilian medical officers stationed in various districts. With these are associated a number of German and native assistants, trained nurses, Sisters of Mercy, and members of the Red Cross Society. As regards the non-official doctors, a number of business firms have their own medical men to attend their employees, and two railways in course of construction, the Central Railway and the line from Usambara to Tanga, have each a medical staff. There are also some German and English medical missionaries working in the colony who give their services to the native sick gratuitously. Among the Europeans resident in the colony, numbering some 4227, there were 1387 cases of illness treated by the official medical officers, and 43,754 cases among the natives. The chief maladies for which medical advice was sought included malaria and blackwater fever, ankylostomiasis, dysentery (both amœbic and bacillary forms), venereal diseases, frambœsia, and sleeping sickness.

Plague.—Though plague is endemic in that part of the colony lying near Lake Victoria Nyanza there was no widespread epidemic during 1910–11. There were, however, some localised outbreaks, including one at Muanza, to which place, it is alleged, the infection was brought from English territory—namely, Uganda. There was also an outbreak at Lindi, where, as also at Muanza, there was a coincident epizoötic of plague among rats. Great efforts were made to destroy these rodents, and altogether 154,639 were killed up to the end of the fiscal year.

Small-pox.—Though only 560 cases, with 163 deaths, came under official notice, there were numerous other cases in various parts of the colony during the year. The precise number of attacks and deaths of these unofficially attended small-pox cases is not known. Several localised outbreaks occurred, but these were quickly suppressed by the extensive use of vaccination and revaccination. During the year 886,750 vaccinations and revaccinations were performed. The bulk of the vaccine lymph was prepared locally, 320 bovine animals being used for its production. Experiments were also carried out to test the value of lymph obtained from other animals, such as sheep, goats, swine, and rabbits; a donkey and a dog were likewise treated for this purpose. The virulence of the vaccine lymph appeared to be increased by passage through the pig and the donkey.

Ankylostomiasis.—Among the natives the official doctors treated 3816 cases of hookworm disease, 227 of them proving fatal, but only 1 case was reported among the European population. The disease was rife, too, among the native labourers employed in the construction of the Usambara railway, who were not treated by the Government medical officers but by the contractor's surgeons. Of 6203 persons whose stools were specially examined, 2572, or 41 per cent., were found to be infected. The colonial troops also had many cases. For instance, out of a company of Askaris at Lindi numbering 167, upon examination 109 were found to be passing the eggs of the parasite in their stools; and at Daressalem (the capital and chief port of the colony) among the Askari recruits at the depôt numbering 461 there were 98, or 21·3 per cent., infected by the disease. The habits of the natives assist in the spread of the infection, and efforts are being made to induce them to use latrines, but at the plantations some difficulty is experienced in getting members of different tribes to make use of the same latrine. Privy accommodation is also being provided for native huts where possible.

Malaria and blackwater fever.—In the European population 1048 cases of malaria were treated by the Government medical officers, 3121 among the natives and 95 among the military, making a total of 4807 malaria cases officially treated. Of that number 20 died. There were 56 cases of blackwater fever among the European civil population and 26 among the natives, a total of 82, of which 12 proved fatal. Special measures were taken to find out all persons carrying the malarial parasites in their blood, and these underwent careful treatment with quinine; along with this efforts were made to destroy all the mosquitoes' breeding places. At Daressalem the blood of 21,476 people was examined, and 4441 were discovered to have the parasites in their circulation. In 77 per cent. of these cases tropical ring parasites were found. At Tanga, a port on the coast and the terminus of the Usambara railway now in process of construction, 9662 native labourers were examined and parasites were found in 3075 of them. Mention is made of two Englishmen who came under official treatment, having been discovered very ill after some weeks spent in elephant hunting in German East Africa. Neither of these men had supplied themselves with any quinine, although knowingly proceeding to a malarial district. Both of them paid for their neglect with their lives. The meteorological conditions were on the whole favourable, less rain having fallen than in some preceding years.

Sleeping sickness.—Altogether 3573 cases of sleeping sickness came under observation during the 12 months, and 694 of them terminated fatally. According to the scheduled returns given in the report no fewer than 673 are classified as "cured." The cases mainly occurred in two regions—viz., (1) in the region around the Victoria Nyanza, from which 998 cases were reported; and (2) along the shores of Lake Tanganyika, where 2575 cases were notified. The measures employed against the disease are those described in the last report (for 1909–10). Apparently the situation as regards sleeping sickness in the colony is improving. Atoxyl and arsenophenylglycin are the chief remedies used in the treatment of the malady. Trial is also being made of "Hata 606." The expenditure incurred during the 12 months for dealing with this disease amounted to £16,200.

Leprosy.—This malady is widely diffused throughout the colony, and during the year a number of fresh cases came under official observation. On March 31st, 1911, there were 52 leper homes or villages where the patients were segregated and cared for; the number of actual cases of leprosy known at that date was 4335. Some of the leper homes were under the supervision of the medical missionaries.

Relapsing fever.—This infection is endemic in German East Africa, and the disease is commonly observed to spread along the caravan routes and in the stations or resting places of the carriers where the insect host, a tick (ornithodorus moubata), of the specific organism is often to be found. With a view to getting rid of these infections the huts are

[1] Medizinal-Berichte über die Deutschen Schutzgebiete für das Jahr 1910–11. Edited by the Imperial Colonial Office. Berlin: E. S. Mittler and Son. 1913. Pp. 808, with 29 illustrations in the text and 20 photographs. Price, unbound, 10 marks.

[2] See also THE LANCET, March 16th, 1912, p. 747.

often burned down. Among natives 391 cases were treated by the Government doctors and 43 among the Europeans; but other cases, the number of which is not stated, were treated by the unofficial practitioners and by the medical missionaries. Of the white officers and non-commissioned officers serving with the colonial troops 17 were attacked by relapsing fever during 1910–11, and among the native soldiers 186 other cases were reported.

Venereal diseases appear to be very prevalent in the colony. Among the European civil population 302 cases and among the natives 2144 were treated by the Government medical men. In addition nearly 400 cases among the coloured population were attended by non-official practitioners. There was an increase among the troops in the number of venereal cases treated by the military surgeons, but this appears to be accounted for by the fact that there is now a much stricter control over the coloured troops, and that in consequence the occurrence of venereal disease is brought under medical treatment much more quickly and surely than in the past.

We have said enough to show the extent and importance of the information contained in this annual report upon the medical and sanitary services of the German colonies.

Public Health.

REPORTS OF SCHOOL MEDICAL OFFICERS.

City of Liverpool.—Dr. E. W. Hope's report lays especial stress upon the need for classes for children suffering from a degree of myopia rendering ordinary education difficult. A table of the results of an examination of the vision of 7525 children is given showing 356, or 4·73 per cent., with vision 6/24 or worse. The education committee in Liverpool are evidently not awake to the exceedingly serious importance of these figures. Nor, judging by the statement "sewing continues in many instances to be carried on during dark days and sometimes in badly lighted classrooms," are they awake to the importance of safeguarding the children's vision in general. It would be practically a matter of impossibility to have any satisfactory excuse for the condition referred to. It can only be due to ignorance. A short but interesting account is given of the mental condition of children, and it appears that there are constantly waiting for admission to mentally defective classes upwards of 100 children, who in some instances become too old for examination before their turn arrives. Bad nutrition is estimated, using a "lenient" standard, at 10·5 per cent., and in the Scotland district nearly 30 per cent. Clothing and boots are very defective in large numbers of cases. Under the heading of "treatment" we notice a useful coöperation between the Liverpool Insurance Committee and the Invalid Children's Aid Association, resulting in the extension of "sanatorium benefit" to the dependents of insured persons and the obtaining of the site for a special sanatorium at Leasowe. But there is a great need of open-air recovery schools. Arrangements are also being made for the treatment of defects of vision by two salaried medical officers working on two afternoons a week at the treatment centre and other medical men working on a fee basis of 5*s.* per case. Dental treatment and other treatment are urgently required. Two charts dealing with measles, of which there was a severe epidemic during the year, and whooping-cough are given and illustrate the importance of school closure of infants' departments. Dr. Hope calls attention to the value, even if measles be accepted as inevitable, of postponing the age at which the disease is contracted and of avoiding a winter epidemic. The value of the charts at the end of the report comparing the defects and other conditions found in the different registration districts would be improved by a clear indication of the differences in density of population, in poverty, and otherwise between these districts.

City of Manchester.—The large scale of the work in this great city has necessitated an increase in the nursing and clerical staff, and calls for increase in premises and in medical staff also. The compulsory notification of measles and whooping-cough has not proved itself of much value except as an indirect means for educating public opinion as to the dangerous nature especially of measles. Ringworm and impetigo are treated by being kept under an "observation clinic," but a means of using X-ray treatment is called for. The amount of the coöperation between the school medical officer and certain voluntary associations has increased, and as a result 76 children suffering from incipient phthisis, anæmia, or debility have been sent to country homes. As many as 348,737 meals were supplied to 5047 children at a cost of slightly over 1*d.* per meal. It would be interesting to know the quantities of food supplied; the meals, judging by the particulars given, cannot be considered adequately to make up for the deficiency in the diet of those needing "free meals." When the family income is over 2*s.* 6*d.* per head in families having over three children, or 3*s.* a head in families of one or two children, a charge of 1*d.* a meal is made. Only 1579 children were fed more than six months of the year. Full reports are given by Dr. A. Brown Ritchie on the special schools and classes as well as the other routine departments of the work, and reports on "Squint in School Children" and "Colour Work in Schools" (dealing with the education of the colour sense), by Dr. E. F. M. Neave and Dr. J. G. Woolham, are included.

VITAL STATISTICS.

VITAL STATISTICS FOR 1913.

THE following statement shows the birth- and death-rates and the rates of infantile mortality in England and Wales and in certain parts of the country during the year 1913, the figures being provisional:—

—	Annual rate per 1000 living.			Deaths under one year to 1000 births.
	Births.	Deaths.		
		Crude.	Standardised.	
England and Wales	23·9	13·7	13·4	109
96 great towns, including London	25·1	14·3	14·7	116
145 smaller towns	23·9	12·8	13·0	112
England and Wales less the 241 towns	22·2	13·1	12·1	96
London...	24·8	14·2	14·2	104

The standardised death-rates (formerly called corrected death-rates) are the rates which would have been recorded had the sex and age constitution of the populations of the several areas been identical with that of England and Wales as enumerated in 1901. A description of the method of standardising these death-rates is to be found in the Registrar-General's Annual Report for 1911, p. xxix.

HEALTH OF ENGLISH TOWNS.

In the 97 English and Welsh towns, with populations exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 18,120,059 persons, 8637 births and 5917 deaths were registered during the week ended Saturday, Jan. 17th. The annual rate of mortality in the 96 or 97 towns, which had steadily increased from 13·2 to 19·3 per 1000 in the six preceding weeks, declined to 17·0 per 1000 in the week under notice. Among the several towns the annual death-rate last week ranged from 5·9 in Ealing, 8·1 in Edmonton, 8·2 in Hornsey, 9·7 in Ilford, and 9·8 in Bournemouth, to 22·7 in Burnley and in Middlesbrough, 23·2 in Exeter, 24·3 in Plymouth and in West Hartlepool, 24·4 in Halifax, and 25·1 in Barnsley.

The 5917 deaths from all causes were 786 fewer than the number in the previous week, and included 329 which were referred to the principal epidemic diseases, against 346 and 355 in the two preceding weeks. Of these 329 deaths, 80 resulted from infantile diarrhœal diseases, 70 from diphtheria, 66 from whooping-cough, 55 from measles, 37 from scarlet fever, and 21 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week did not exceed 0·9 per 1000, against 1·0 per 1000 in each of the four preceding weeks. The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had been 89, 80, and 89 in the three preceding weeks, fell to 80 last week; of this number 20 were registered in London, 7 in Birmingham, 6 in Manchester, 3 in Stoke-on-Trent, 3 in Stockport, and 3 in Sheffield. The deaths referred to diphtheria, which had been 60, 64,

and 65 in the three preceding weeks, further rose to 70 last week, and included 14 in London, 11 in Birmingham, 4 in Portsmouth, 4 in Manchester, and 3 in Sheffield. The fatal cases of whooping-cough, which had been 61, 76, and 64 in the three preceding weeks, were 66 last week; 13 deaths occurred in London, 13 in Birmingham, 5 in Sheffield, 4 in Manchester, and 3 in Swansea. The deaths attributed to measles, which had been 80, 76, and 66 in the three preceding weeks, further declined to 55 last week, and included 6 in Bristol, 5 in Barnsley, 4 in Salford, 4 in Burnley, and 3 each in Ipswich, West Bromwich, Bradford, Sheffield, and Middlesbrough. The deaths referred to scarlet fever, which had been 33, 34, and 43 in the three preceding weeks, fell to 37 last week, of which 7 were registered in Sheffield, 4 in London, 4 in Birmingham, and 2 each in Brighton, Manchester, Salford, Leeds, and Middlesbrough. The fatal cases of enteric fever, which had been 20, 16, and 28 in the three preceding weeks, fell to 21 last week, and included 5 in London, 2 in Sheffield, and 2 in Rhondda.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had steadily declined from 4143 to 3757 in the six preceding weeks, further fell to 3676 on Saturday last; 388 new cases were admitted during the week, against 326, 425, and 416 in the three preceding weeks. These hospitals also contained on Saturday last 1081 cases of diphtheria, 219 of whooping-cough, 58 of measles, 56 of enteric fever, and 1 of small-pox. The 1469 deaths from all causes in London were 310 fewer than the number in the previous week, and were equal to an annual death-rate of 17·0 per 1000. The deaths referred to diseases of the respiratory system, which had been 280, 423, and 511 in the three preceding weeks, fell to 400 last week, but were 89 in excess of the number recorded in the corresponding week of last year.

Of the 5917 deaths from all causes in the 97 towns, 178 were attributed to various forms of violence, and 438 were the subject of coroners' inquests. The causes of 49, or 0·8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Sheffield, Leeds, Bristol, Bradford, Hull, Nottingham, and in 66 other smaller towns. Of the 49 uncertified causes of death, 9 were registered in Birmingham, 6 in Liverpool, 4 in Gateshead, 3 each in Stoke-on-Trent, Preston, Sunderland, and South Shields, and 2 in Stockport.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns, with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1207 births and 896 deaths were registered during the week ended Saturday, Jan. 17th. The annual rate of mortality in these towns, which had been 17·9, 20·3, and 20·2 per 1000 in the three preceding weeks, rose to 20·4 per 1000 in the week under notice, against a rate of 17·0 in the 97 large English towns. Among the several Scotch towns the death-rate last week ranged from 10·1 in Motherwell, 11·0 in Falkirk, and 14·1 in Clydebank, to 22·4 in Paisley, 23·0 in Hamilton, and 31.5 in Ayr.

The 896 deaths from all causes were 7 in excess of the number in the previous week, and included 67 which were referred to the principal epidemic diseases, against 85 and 79 in the two preceding weeks. Of these 67 deaths, 29 resulted from measles, 13 from diphtheria, 9 from whooping-cough, 8 from scarlet fever, and 8 from infantile diarrhœal diseases, but not one from enteric fever or from small-pox. These 67 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·5, against 0·9 per 1000 in the 97 large English towns. The deaths attributed to measles, which had been 37, 50, and 36 in the three preceding weeks, declined to 29 last week; of this number 9 occurred in Glasgow, 6 in Edinburgh, 6 in Paisley, and 4 in Greenock. The deaths referred to diphtheria, which had been 10, 12, and 14 in the three preceding weeks, were 13 last week, and included 5 in Glasgow, 5 in Aberdeen, and 2 in Edinburgh. The fatal cases of whooping-cough, which had been 11, 5, and 5 in the three preceding weeks, rose to 9 last week, of which 2 were recorded in Glasgow, 2 in Paisley, and 2 in Coatbridge. The deaths attributed to scarlet fever, which had been 11, 7, and 9 in the three preceding weeks, were 8 last week, and included 4 in Glasgow. The deaths of infants (under 2 years) referred to diarrhœa and enteritis, which had been 9, 11, and 12 in the three preceding weeks, fell to 8 last week, of which 2 were registered in Glasgow, 2 in Aberdeen, and 2 in Leith.

The deaths referred to diseases of the respiratory system, which had steadily increased from 139 to 184 in the four preceding weeks, further rose to 230 in the week under notice; 26 deaths were attributed to various forms of violence, against 30 and 33 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,206,280 persons at the middle of this year, 647 births and 500 deaths were registered during the week ended Saturday, Jan. 17th. The annual rate of mortality in these towns, which had been 15·9, 25·7, and 25·4, per 1000 in the three preceding weeks, declined to 21·6 per 1000 in the week under notice. The annual death-rate last week was equal to 24·0 in Dublin (against 17·0 in London and 21·1 in Glasgow), 22·7 in Belfast, 19·7 in Cork, 12·7 in Londonderry, 29·8 in Limerick, and 15·2 in Waterford, while in the 21 smaller towns the mean death-rate did not exceed 16·9 per 1000.

The 500 deaths from all causes were 88 fewer than the number in the previous week, and included 38 which were referred to the principal epidemic diseases, against 32 and 44 in the two preceding weeks. Of these 38 deaths, 12 resulted from scarlet fever, 11 from infantile diarrhœal diseases, 6 from measles, 4 from whooping-cough, 3 from enteric fever, and 2 from diphtheria, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·6 per 1000; in the 97 large English towns the corresponding rate did not exceed 0·9, while in the 16 Scotch towns it reached 1·5 per 1000. The deaths attributed to scarlet fever, which had been 7, 3, and 13 in the three preceding weeks, were 12 last week, of which 10 occurred in Belfast. The deaths of infants (under 2 years) referred to diarrhœa and enteritis, which had been 7, 6, and 7 in the three preceding weeks, rose to 11 last week, and included 6 in Dublin and 3 in Belfast. The fatal cases of measles, which had increased from 1 to 8 in the six preceding weeks, fell to 6 last week, of which 4 were recorded in Armagh. The deaths attributed to whooping-cough, which had been 10, 7, and 5 in the three preceding weeks, further fell to 4 last week, of which 2 occurred in Newtownards. The 3 deaths referred to enteric fever were recorded in Dublin and were equal to the average in the three preceding weeks. The 2 fatal cases of diphtheria were registered in Belfast.

The deaths referred to diseases of the respiratory system which had been 89, 162, and 154 in the three preceding weeks, declined to 130 in the week under notice. Of the 500 deaths from all causes, 153, or 31 per cent., occurred in public institutions, and 6 resulted from various forms of violence. The causes of 17, or 3·4 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 96 large English towns the proportion of uncertified causes of death last week did not exceed 0·8 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Fleet-Surgeons: M. Cameron to the *Cornwall*; P. H. M. Star to the *Conqueror*; H. P. Jones to the *Columbine*, additional, for Queensferry Sick Quarters; and H. B. Beatty to the *Pembroke*, additional, for East London Recruiting District and for medical charge of Naval Store Depôt. Staff-Surgeons: A. R. Thomas to the *President*, additional, for the *Maine*; and R. S. Osborne to the *Birmingham*, on commissioning. Surgeons: G. A. Finegan to the *Woolwich*; S. F. Dudley to the *Pembroke*, additional, for Chatham Hospital for instruction of Sick Berth Reserve; H. E. Y. White to the *Excellent*, temporary; W. L. Cowardin to the *Jason*, additional, for duty with Mine-sweeping Gunboats; T. Cock to the *Blake*; F. St. B. Wickham to the *Sirius*, for voyage out, on commissioning, and to the *Alert*, on recommissioning; H. White to the *Victory*, additional, for disposal, and for Portsmouth Dockyard; G. Carlisle to the *Victory*, additional, for Haslar Hospital; A. G. V. French to the *Carnarvon*; A. M. Henry to the *Minotaur*; and L. A. Moncrieff to the *Vivid*, additional, for Plymouth Hospital.

ROYAL ARMY MEDICAL CORPS.

The undermentioned Supernumerary Lieutenant-Colonels are restored to the establishment: T. du B. Whaite, vice R. S. F. Henderson (dated Jan. 2nd, 1914); Herbert E. Winter, vice G. A. T. Bray, Supernumerary (dated Jan. 20th, 1914); and Captain Leonard Cotterill to be Major (dated Dec. 5th, 1913).

Surgeon-General W. G. A. Bedford, C.M.G., has taken up duty as Deputy Director of Medical Services to the South African Command, in succession to Surgeon-General O. E. P. Lloyd, V.C., C.B.

Colonel A. E. Tate has taken up duty as Assistant Director of Medical Services at headquarters of the Bangalore Brigade, vice Colonel F. H. Treherne.

Lieutenant-Colonel C. W. R. Healey has been transferred from the London District to the Royal Herbert Hospital at Woolwich. Lieutenant-Colonel C. H. Melville has taken over charge of the Military Hospital at Tidworth, Salisbury Plain. Lieutenant-Colonel J. W. Bullen has been appointed to the Northern Command. Lieutenant-Colonel P. J. Morgan has been appointed to hold medical charge of the transport s.s. *Plassy* leaving Bombay on March 12th.

Major E. P. Connolly has taken over charge of the Military Hospital at Murree Cantonment. Major B. Watts has been selected for appointment as Specialist Sanitary Officer to the London District. Major F. E. Gunter has been appointed to the Southern Command for a tour of duty. Major E. W. Bliss and Major A. H. Safford have been appointed for duty on board the transport s.s. *Plassy*. Major F. W. Mangin has been appointed Specialist in Ophthalmology to the Poona Division of the Southern Army in India. Major R. W. Clements has been appointed to the Cork District for duty. Major W. H. S. Nickerson, V.C., has been transferred from Murree Cantonment to Rawal Pindi. Major L. L. G. Thorpe has been appointed to hold charge of the Military Hospital at St. Thomas's Mount on transfer from Madras. Major C. H. Hopkins has taken over medical charge of the depôt of the Royal Wiltshire Regiment at Devizes, vice Major W. K. Steele. Major H. G. Pinches has been appointed to the Dublin District for duty. Major G. Baillie has been appointed to the Military Hospital at Colchester. Major G. J. Stoney Archer has been selected for appointment as Specialist in Operative Surgery to the Royal Victoria Military Hospital at Netley. Major H. K. Palmer has been appointed to the Southern Command for duty. Major C. H. Carr has taken up duty at the Military Hospital, Tidworth, on transfer from Upavon. Major J. H. Campbell, D.S.O., has been appointed Medical Inspector of Recruits to the Eastern Command. Major E. S. Clark has embarked for a tour of service in India.

Captain O. C. P. Cooke has been transferred from medical charge at Tipperary to the Military Hospital at Cork. Captain J. L. Wood has taken up duty at Pontefract on transfer from the Military Hospital at Naini Tal Cantonment. Captain C. P. O'Brien Butler, on arrival home from the Military Hospital at Kirkee Cantonment, has been appointed to Kildare for duty. Captain E. M. Pennyfather has embarked for a tour of service in India. Captain S. Shepherd has been placed under orders for transfer from the Seventh (Meerut) Division to the Burmah Division for a tour of duty. Captain T. W. Brown has been appointed to the Irish Command on arrival home from Jhansi. Captain C. M. Rigby has been appointed Embarkation Medical Officer at Bombay Docks. Captain A. H. Heslop has arrived home on leave of absence from the Military Hospital at Rawal Pindi Cantonment. Captain A. H. T. Davis has been transferred from the Military Hospital at Malapuram to Poona Cantonment. Captain T. H. Scott has arrived home for duty from India, tour expired. Captain M. J. Lochrin has been appointed to the Aldershot Command. Captain J. St. A. Maughan has taken up duty as Company Officer at the Royal Victoria Military Hospital, Netley. Captain D. H. C. MacArthur has been transferred from the Military Hospital at Lahore to Dalhousie Cantonment. Captain E. D. Caddell has arrived home on leave of absence from the Military Hospital at Aden. Captain D. Ahern has arrived home for duty from Egypt. Captain A. C. Amy has been appointed to the Eastern Command. Captain R. Rutherford has taken up duty in charge of the Military Hospital at Fort Canning, Straits Settlements. Captain G. H. Stack has joined at Aldershot. Captain H. Gall has been transferred from the Military Hospital at Khyra Gali Cantonment to Sialkot. The following Captains have joined the Royal Army Medical College at Grosvenor-road, S.W., for the courses of instruction for promotion to the rank of Major:—F. D. G. Howell, P. Sampson, E. M. O'Neill, T. W. O. Sexton, T. T. H. Robinson, and G. H. Stevenson. Captain R. G. H. Tate has been appointed to the Irish Command. Captain F. Worthington has arrived home for duty from Ceylon. Captain J. H. Douglas has been selected for appointment as Specialist Sanitary Officer to Sierra Leone Protectorate. Captain J. F. Grant has taken up duty at Maymyo. Captain R. H. Bridges has taken up duty as Adjutant to the Royal Army Medical Corps School of Instruction at Manchester.

Lieutenant E. C. Lang has been transferred from Kildare to Kilbride. Lieutenant J. C. Sproule has taken up duty at the Military Hospital, Devonport. Lieutenant J. M. Elliott, Lieutenant F. R. B. Skrimshire, Lieutenant W. B. Laird, Lieutenant E. A. Strachan, and Lieutenant H. W. L. Allott have embarked for a tour of duty in India. Lieutenant H. C. Todd has been appointed to the Military Hospital at Bangalore to undergo a course of instruction in Indian sanitation. Lieutenant H. R. L'Estrange has embarked for a tour of duty at Mauritius. Lieutenant T. H. Balfour has been transferred from medical charge at Fort George to Inverness. Lieutenant R. F. Bridges has been transferred from the Military Hospital at Cherat to Peshawar Cantonment. Lieutenant J. D. Bowie has taken up duty at Alexandria. Lieutenant C. M. Finny has been appointed to Changli Gali for duty at the Military Hospital. Lieutenant P. Hayes has been transferred from the Military Hospital at Poonamallee to Bangalore Cantonment.

INDIAN MEDICAL SERVICE.

Colonel R. W. S. Lyons has taken up duty as Surgeon-General with the Government of Bombay, vice Surgeon-General H. W. Stevenson, C.S.I. The services of Colonel R. Robertson have been placed permanently at the disposal of the Commander-in-Chief in India for appointment as Assistant Director of Medical Services.

Lieutenant-Colonel J. G. Hulbert, civil surgeon at Moradabad, has been granted six months' general leave of absence home from India. Lieutenant-Colonel V. G. Drake-Brockman has been appointed Agency Surgeon (first class) at Bundelkhand.

Major S. R. Christophers has been appointed to act as Director of the Central Research Institute at Kasauli, vice Major W. F. Harvey. Major T. S. B. Williams, agency surgeon (second class), has been appointed to hold civil medical charge at Dera Ismail Khan. The services of Major A. C. MacGilchrist have been placed temporarily for special duty under the orders of the Director-General, Indian Medical Service. Major J. K. S. Fleming has arrived home on leave of absence from India.

Captain F. W. Cragg has been appointed to officiate as Assistant Director at the Central Research Institute, Kasauli, during the absence on deputation of Captain J. Cunningham. Captain R. B. S. Sewell has joined the Army Department. Captain W. R. J. Scroggie has been granted 2 years and 15 days' general leave of absence home from India. Captain H. Crossle has been appointed an Agency Surgeon (Second Class) under the Foreign Department of the Government of India. Captain B. E. M. Newland has joined at Etawah. Captain W. S. J. Shaw has arrived home on leave of absence from India. Captain H. H. Thorburn has taken up duty as Officiating Consul-General and Agent to the Government of India at Khorasan. Captain W. J. Fraser, civil surgeon at Chhindwara, has been deputed to Kasauli. Captain D. S. A. O'Keefe has been granted 15 months' general leave of absence home from India. Captain W. F. Brayne, plague medical officer in Burma, has been appointed to officiate as Deputy Sanitary Commissioner to the Government of Burma. Captain J. Woods has been granted an extension of leave of absence home from India. Captain R. S. Townsend, plague medical officer at Aligarh, has been appointed to hold civil medical charge at Muttra, vice Captain H. C. Buckley, granted leave of absence.

TERRITORIAL FORCE.

Royal Army Medical Corps.

3rd North Midland Field Ambulance, Royal Army Medical Corps: Lieutenant Martin Hallam resigns his commission (dated Jan. 21st, 1914).

1st South Midland Field Ambulance, Royal Army Medical Corps: Lieutenant Edward J. Boome to be Captain (dated August 19th, 1913).

North Midland Clearing Hospital, Royal Army Medical Corps: Lieutenant-Colonel William Pemberton Peake, from the 2nd North Midland Field Ambulance, Royal Army Medical Corps, to be Lieutenant-Colonel (dated Jan. 21st, 1914).

West Riding Clearing Hospital, Royal Army Medical Corps: Lieutenant-Colonel Algernon Edward Luke Wear, from the 1st West Riding Field Ambulance, Royal Army Medical Corps, to be Lieutenant-Colonel (dated Jan. 21st, 1914).

Welsh Clearing Hospital, Royal Army Medical Corps: Major Conrad Theodore Green, from the List of Officers attached to Units other than Medical Units, to be Lieutenant-Colonel (dated Nov. 12th, 1913).

Attached to Units other than Medical Units.—Captain William A. Gibb to be Major (dated Dec. 3rd, 1913). Lieutenant Alfred S. Bruzaud to be Captain (dated Dec. 4th, 1913).

AEROPLANES AND THE ARMY MEDICAL SERVICE.

The Use of Aeroplanes to the Army Medical Service in the Field was the subject of a lecture at the Royal United Service Institution on Jan. 14th by Lieutenant-Colonel J. D. F. Donegan, R.A.M.C. He pointed out that among the possible uses for aeroplanes would be the rapid transport of medical and surgical aid and the affording of facilities to the administrative officer for examining the conditions under which it would be possible to dispose of the wounded. Scouting for the wounded might also be possible by aeroplane, but the lecturer said he could not realise its utility in this respect at the present time. An aeroplane could be constructed to carry an operating table with surgical appliances for 15 or 20 operations, an operator, an assistant, and an anæsthetist, together with a pilot. In the discussion which followed reference was made to the improbability of machines being at hand when required unless specially provided for the medical service under the direct orders of the principal medical officer.

We need hardly point out that although only yesterday the aeroplane was a scientific toy, to-day it is in practical use and its future suggests many possibilities. In coming wars the aeroplane may play a very important part and already, at any rate in manœuvres, some very good work has been done, as was pointed out in an article published in the *Royal Army Medical Corps Journal* for July, 1913, by Captain H. R. Cordner, R.A.M.C.[1] In this article the desirability of

[1] Vide THE LANCET, July 12th, 1913, p. 100.

the Royal Army Medical Corps possessing its own aeroplanes was referred to, and it was also pointed out that in France, the birthplace of modern aviation, the medical department had already taken up the new science.

THE MEDJIDIEH DECORATION.

Captain R. J. C. Thompson, R.A.M.C., has been granted His Majesty's licence to wear the Imperial Ottoman Order of the Medjidieh (Fourth Class) conferred on him by H.H. the Khedive of Egypt.

Colonel Sir W. B. Leishman, R.A.M.C., has been appointed a member of the Army Medical Advisory Board as an expert in tropical diseases.

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

BIRMINGHAM.

Wolverhampton and Staffordshire General Hospital.

ON Jan. 12th the new pathological laboratory of the hospital was opened. The building, which cost £1300, has been erected from plans by Mr. A. W. Worrall, and the equipment will cost an additional £100. It will be in charge of Dr. William Boyd, who was appointed pathologist at the hospital last June. While the laboratory is to be used primarily for the hospital, provision will be made for the needs of general practitioners and of veterinary surgeons. The opening ceremony was performed by Sir Clifford Allbutt. Mr. Shaw-Hellier, the chairman of the board of management, presided, and gave a sketch of the hospital's history. Sir Clifford Allbutt gave an interesting address upon the growth of pathology and the uses of a clinical laboratory.

Birmingham and Midland Institute.

Sir Frederick Treves has been asked to accept the office of president of the institute for the ensuing year. In the long roll of distinguished men who have held this office the last medical president was Professor Huxley in 1871. Mr. Gilbert Barling, in proposing Sir Frederick Treves, remarked that he would be the first surgeon to hold the office, and was not only a distinguished surgeon, and a speaker of great force, but a widely cultured man, who had written some extraordinarily interesting books.

Antivivisection.

The British Union for the Abolition of Vivisection, following the practice adopted elsewhere, have opened a shop in the chief street of the city for the exhibition of the usual misleading models and diagrams. This aroused some newspaper correspondence, and has been followed up by the visit of Dr. W. R. Hadwen, who delivered an address at Queen's College on Experiments on Animals, Useless and Cruel. The speaker's statements did not pass without protest, and there was considerable disorder. The Research Defence Society is opening a shop in the same street as an antidote to the misleading statements about experiments on animals. The local branch of the society has many influential members under the presidency of Mr. Cary Gilson, the headmaster of King Edward VI. Grammar School.

State Insurance.[1]

Of the 320,000 insured persons in Birmingham 263,416 at the end of the year had selected their own medical men, and 446 had been allowed to make their own arrangements. The 260,000 divided among 272 practitioners on the panel would give an average of about 968 per medical man. But one practitioner has 4164 insured persons on his books, 12 have more than 3000, 28 between 2000 and 3000, and 122 between 1000 and 2000. The total remuneration to the medical profession has been as follows: April quarter, £20,374; July, £21,947; October, £23,048; and for the last quarter it will probably exceed £25,000, as many more insured persons have lately chosen their medical men. The average income has, therefore, been about £330, but a few have received over £1000. The number of chemists on the panel is 149. In the first nine months the money in hand was just sufficient to meet the cost of the drug service, but since then the average cost of prescriptions has risen, and some anxiety is felt lest the cost should exceed the available balance. As far as the first year of practice is concerned, there seems little hope of the floating 6*d.* being obtained by the medical profession. Complaint is made in the *Midland Medical Journal* that the extravagant prescribing of a handful of men has cost the profession no less a sum than £7000.

Typhoid Fever.

Cases of typhoid fever have apparently been traced to the eating of Portmadoc mussels, and owing to the action of the health committee dealers have refused to receive further consignments. Birmingham is the largest market for these mussels, and the fishermen have petitioned the Portmadoc council to lay down purifying beds.

A serious outbreak of typhoid fever has occurred at Kenilworth, and been traced to contamination of the drinking water. The Local Government Board has made an inquiry, and the inspector's report is expected shortly. Meanwhile a public safety committee has been appointed to watch over the interest of the inhabitants. The cause of the outbreak—an adit polluting the main supply—has been stopped and the mains have been disinfected. Bacteriological examinations now show that the water is pure.

Jan. 20th.

WALES.

Housing in Monmouthshire

IT is nearly 20 years since the late Mr. T. W. Thompson, one of the medical inspectors of the Local Government Board, reported upon the grossly insanitary condition of the urban district of Blaenavon in Monmouthshire. In December, 1911, Dr. Morgan J. Rees again reported to the Board on the same district,[1] and stated that he found that Mr. Thompson's observations with respect to the unsatisfactory state of the sewerage and house drainage, sewage disposal, excrement and refuse disposal, and water-supply might very well apply to the then conditions. Of the housing conditions Dr. Rees had a deplorable story to relate. Many of the houses were of a poor character, badly built in the first instance and allowed to become unwholesome and insanitary through lack of periodical repair. Many cases of overcrowding were found to exist, and bedrooms which had been occupied at night were also occupied in the daytime by workmen working on night shifts. Cellar dwellings and back to earth dwellings, though condemned as unfit for habitation, were fully occupied owing to the absence of better houses. Following upon this report the Local

[1] THE LANCET, Nov. 29th, 1913, p. 1573.

[1] THE LANCET, May 18th, 1912, p. 1384.

Government Board has been pressing the district council to make use of the powers invested in it by the Housing, Town Planning, &c., Act, 1909, and to carry out a building scheme. In August, 1912, a definite proposal was made by a member of the district council to erect 50 houses, but the proposal after being deferred from one meeting to another was finally negatived. At one of these meetings it was stated that among 225 houses which had been inspected 40 per cent. had no back doors and 40 per cent. were overcrowded. Failing action being taken by the district council the Local Government Board has now made an order requiring a scheme for the erection of at least 50 houses to be submitted to it by Feb. 26th next, and further requiring that the whole of the houses shall be ready for occupation by Nov. 26th of this year.

The Salary of the Brecknockshire County Medical Officer of Health.

The Brecknockshire county council has recently appointed a medical officer of health and school medical officer at a combined salary of £500 per annum, which sum is to include any expense that the officer may be put to in travelling about the county in the course of his duties. The area of Brecknockshire is 469,281 acres, and there are only three other Welsh counties of greater extent. While the question of the appointment was under the consideration of the county council a communication was received from the Board of Education in which reference was made to the unsatisfactory proposal to pay an inclusive salary out of which the school medical officer would have to pay his travelling expenses. The Board pointed out that in a district like Brecknockshire such an arrangement was open to serious objection, for the greater the efficiency with which the work was done the smaller would be the remuneration of the officer. The desirability for more frequent visitation of the schools in the county made it important that the proposed method of payment should be abandoned, and that the school medical officer should receive a salary commensurate with the responsible and onerous character of the duties to be performed.

The More Adequate Punishment of Defaulting Dairymen.

It has been apparent for many years that the fines that have been inflicted on dairymen convicted of selling milk to which water has been added have been quite insufficient to act as a deterrent to the practice. It has been pointed out more than once by prosecuting solicitors that a dairyman who has even only a moderately sized business can very well afford to pay a fine of £1 or 30*s*. if he sells water at 4*d*. a quart and chooses to run the risk of being found out. It is satisfactory to find that some police magistrates are at last realising that heavier punishment must be inflicted upon dairymen who are convicted of watering milk if the practice is to be stopped. In the Rhondda police court a milk vendor was recently fined £30 and costs for selling milk said to be deficient in butter fat to the extent of 20 per cent., and at the Cardiff police court a farmer who had given a warranty with milk sold by him to a milk vendor was fined £20 and costs for a similar offence.

West Wales Asylum.

The West Wales Asylum at Carmarthen, which serves the counties of Cardigan, Carmarthen, and Pembroke, has accommodation for 600 patients, but for some time the need for enlarging the institution has been apparent, and at the end of 1913 there were in the asylum as many as 724 patients. Difficulty is being experienced at Carmarthen, as at other asylums in the country, in obtaining junior medical officers. A salary of £180 per annum, with four yearly increments of £10, has failed to attract any candidates for a vacant post. The joint committee has therefore decided to offer £200, rising to a maximum of £240 per annum.

Jan. 20th.

SCOTLAND.

The Annual Dinner of the Royal College of Physicians.

THE annual dinner of the Royal College of Physicians of Edinburgh was held on Friday evening, Jan. 16th, at the hall of the College, Queen-street, Edinburgh, Dr. Graham Brown, the President of the College, being in the chair. Some 300 Fellows and their guests were present, the latter including a large number of representive public men in many professions. It was an understood thing that the annual dinner this year would be the occasion of making a more or less public pronouncement with regard to a new and great institute for medical research which has been projected by the Royal College of Physicians, the Royal College of Surgeons, and the University of Edinburgh, with the substantial assistance of the Carnegie Trustees, and the opening speeches were very brief in order to allow time for addresses on the main theme by Sir William Turner, Principal of the University of Edinburgh, and Sir Clifford Allbutt, Regius professor of physic in the University of Cambridge. Dr. Graham Brown proposed in happy terms the toast of "The Imperial Forces," which was replied to by the General Officer Commanding-in-Chief (Scottish Command), who testified eloquently to the advance in the general health of the army during the past 20 years owing to the good work of the medical officers of the services, the spread of knowledge upon sanitary matters, and the spirit of coöperation that had sprung up between the medical department and the other officers of the army. Principal Turner then gave the toast of "Research," and showed step by step how medicine had advanced owing to the achievements of research, and how observation of the finest clinical and scientific sort was as much required now, with the elaborate and perfected assistance offered by our chemical, pathological, and physical laboratories, as ever it had been in the past. He showed how the great new Institute for Medical Research projected immediately for Edinburgh was the natural expression of advancing knowledge, and welcomed the fact that the coöperation of the University of Edinburgh with the Royal Colleges showed a perfect concord of aim between the three bodies, in that all alike were working with the common object of preventing and treating disease. He said that he was permitted to mention that a sum of money would be found by the Royal Colleges and by the University, in which connexion the Carnegie Trustees had been approached, and that the movement, when finally organised, would be associated with the great name of Lister. Professor Clifford Allbutt, in replying to the toast, spoke eloquently of the necessity for medical research to

maintain and invigorate the progress of medicine, his address being a comprehensive review of the place that research should occupy in our minds and in the actual course of professional education and life. Professor J. Lorrain Smith having also spoken to the toast, Dr. Alexander Morison proposed the toast of "The Sister Corporations," to which replies were made by the President of the Royal College of Physicians of Ireland, the President of the Royal College of Surgeons of Edinburgh, and the President of the Royal Faculty of Physicians and Surgeons of Glasgow. Dr. C. E. FitzGerald said that he believed his own position as a surgeon-oculist in the Presidency of the Royal College of Physicians of Ireland was unique, but he saw in it a recognition that not only were the diagnoses and observations of ophthalmology every whit as much medical as surgical matters, but that medicine and surgery were one science. Professor J. Ritchie briefly but happily proposed the health of the chairman, Dr. Graham Brown, saying that it was greatly owing to his personality and exertions that in the forthcoming Institute for Medical Research in Edinburgh mutual understanding prevailed between the University and the Royal Colleges, so that "the lion was prepared to lie down with the twin lamb, or, if his hearers preferred it, the lamb was prepared to lie down with the twin lion."

Care of Defective Children in Scotland.

The Scottish Secretary recently received a deputation from a number of Scottish school boards with regard to the fee grant paid in respect of physically defective children. The practice of the Department from 1902 up to March 31st last in calculating the fee grant was to take the same average attendance as for the annual grants; but this method was called to question by the Comptroller and Auditor-General on the ground that it was not legally justified, and the Department has been advised that in future the grant should be calculated on the average actual attendance and not as hitherto, on a basis of 50 for each class. The deputation wished that the *status quo ante* in the method of paying the fee grant should be preserved for the current year, and that thereafter payment might be made by a suitable capitation grant. The chairman of the Govan school board explained that seven of the boards would suffer annually a loss of over £5000 in consequence of the change if no provision were made for payment on a more liberal scale, and that not only would there be keen and universal dissatisfaction, but boards which had not as yet embarked on this type of work would be discouraged from doing so. The Secretary for Scotland, in reply, said that the Scotch Education Department was not to blame in the matter in the least. He was able to say that they had a new arrangement with the Treasury, whereby the grant for defective and epileptic children in special day schools or classes under Article 22–11 (a) of the code should be fixed in future at such a sum as together with the fee grant of 12*s*., and any other additional grant paid under Section 17 (11) of the Education (Scotland) Act, 1908, would amount to £6 per pupil in average attendance. As regarded the similar grant to residential institutions, they agreed that the grant should be fixed at £11, inclusive of fee grant and additional fee grant.

Needs of Argyllshire under the National Insurance Act.

A meeting was held last week in Oban of representatives of the district committee, parish councils, Oban town council, the school board, and the North Argyll Medical Association to consider the information to be supplied to the Highlands and Islands Medical Service Board. Among the suggestions put forward was a proposal for the erection of a central isolation hospital for the district and the subsidising of the Oban Cottage Hospital, so as to enable the managers to admit non-infectious cases where constant attention was necessary, and also maternity cases. A nurse was recommended for Kilbrandan and Kilchattan, Kilninver and Kilmelford, Benduloch and Dalmally, and an additional nurse for Oban. It was further suggested that grants should be made not only for the nurses already established, but also for new nurses, and that a grant of £500 should be made to each local nursing association. It was considered desirable that some sort of scheme should be formulated whereby medical attendance could be provided at a low uniform rate for households where the head of such household does not pay income-tax. It was also suggested that there should be a dentist to visit the various schools in the district, and that a fund be established for consultation in certain cases. It was further proposed that the doctor in each district should have charge of the medical inspection and medical treatment, so far as possible, of the school children in his district. It was recommended that a cycle allowance for nurses be made, and that the Connal Ferry railway bridge ought to be opened for ordinary vehicular traffic to enable patients in Benduloch to be brought within easy distance of the doctors in Oban and Taynuilt. It was further recommended that each parochial medical officer should have a house provided, and that a fund should be instituted for superannuating parochial medical officers who, on account of age or infirmity, are no longer fit for their duties. Additional doctors were recommended, one in the immediate vicinity of Kilchrenan, and one at Benduloch. It was proposed to put doctors and nurses in direct telephone communication, and it was thought advisable that all hospitals should be in direct communication with the doctors thereof. The telegraph services were also in many cases considered insufficient, and in view of the threatened withdrawal of postal facilities at Bonawe, it was pointed out that such withdrawal would seriously interfere with the medical service at Bonawe and district, where there is a large working population. It was suggested that the telegraph line should be extended from Kilninver to Kilmelford, and that Lochawe should be either cabled or wired to allow telegraphic communication between Kilchrenan and Port Sonachan on the other side of the loch. A motor ambulance for the removal of patients to hospitals and sanatoriums, it was pointed out, would be of great service to all the districts situated on the mainland. Truly the National Insurance Act is far-reaching in its effects!

Working of the National Insurance Act in Aberdeen.

Insured persons in the city of Aberdeen number 54,000, and there are now 65 doctors on the panel. These have been paid the sum of £16,000 for the year. Only 350 insured persons gave notice of their wish to change their panel doctor, and only four doctors requested that patients should be dropped from their lists, the patients thus discarded numbering only five. During the year 250 cases of phthisis have been dealt with in Aberdeen; there has been an average of 40 persons receiving

treatment in institutions, the average length of residence being four months. In a number of cases work has been resumed with the disease arrested, but better results are looked for with earlier notification. The Insurance Committee and the Friendly Societies have worked cordially together, and the Act is apparently popular with working men. In the county of Aberdeen there are 40,000 insured persons, the total for Aberdeenshire thus working out at approximately 94,000.

Inverness-shire Sanatorium partly Burned Down.

On the night of Jan. 14th the greater part of the Inverness-shire Sanatorium for Consumptives, near Fort Augustus, an institution working under the National Insurance Act, was destroyed by fire. At the time the fire was discovered, about 7 o'clock, the patients were in the dining-room. The fire spread with great rapidity, and in less than an hour the sleeping quarters, bathrooms, a drawing-room, and part of the dining-room were destroyed. The total loss is estimated at about £1000. The sanatorium was erected some years ago, and accommodated about 24 patients.

IRELAND.

"Medical Advisers" and the Medical Profession.

SINCE the Irish Insurance Commissioners last summer appointed a number of medical practitioners at fixed salaries to provide certificates for insured persons demanding benefit, the practitioners who accepted such posts have been generally disapproved of by the profession as a whole. This was not merely because it was felt that their acceptance of office presented a solution of the certification question unsatisfactory to the profession, but because their duties entailed the visiting and examination of patients in the care of other medical men. In many cases very strained relations resulted, some of the advisers being so rash as to criticise adversely to the patient the diagnosis and treatment of the medical attendant. It is hoped, as has already been announced in THE LANCET, that the dispute between the medical profession and the Insurance Commissioners concerning certification may soon be amicably settled. The Irish Medical Committee has, therefore, at its last meeting been considering the attitude that should be adopted toward the "medical advisers" both at present and after a settlement is made. The Committee has come to the decisions expressed in the following resolutions:—

That the Irish Medical Committee, in hope of a speedy settlement of the certification question being arrived at between the Irish Insurance Commissioners and the medical profession, is of opinion that, pending such settlement or failure of the present negotiations, the existing arrangements of the Commission for obtaining evidence of sickness benefit should be acquiesced in by the medical profession, and that pending such settlement or failure of the negotiations no professional interference should be displayed toward the "medical advisers."

That in the event of a settlement of the certification question satisfactory to the Irish Medical Committee being arrived at, the Committee will use its influence to prevent any professional interference being displayed toward the "medical advisers."

That the Insurance Commissioners use their statutory powers and influence to prevent Friendly Societies from penalising any doctors who have remained loyal to the majority of their colleagues.

The Allan A. Ryan Hospital.

Some three years ago the corporation of Dublin leased their isolation hospital on the Pigeon House Hall at a nominal rent to the Women's National Health Association, to be used as a hospital for tuberculosis. It contained some 50 beds, and over a thousand patients have been treated. For the most part the patients treated have been in the secondary stage of pulmonary phthisis. As part of its general tuberculosis scheme the corporation has now resumed possession of the hospital, which is to be kept as a home for advanced cases of tuberculosis. Last Monday at the Mansion House the Countess of Aberdeen handed over to the Lord Mayor formal possession of the institution.

County Down Practitioners and the National Insurance Act.

A meeting of the medical practitioners of North Down held in the Medical Institute, Belfast, on Jan. 12th, decided, as they were requested, to continue on the panel until March 31st, 1914, which is the end of the financial year, the new terms to come into force on that date. A resolution was passed:—

That we regret that whilst the medical men on the panel for North Down have honourably carried out their contract with the National Insurance Commissioners this year, the Commissioners have failed to fulfil their part of the contract, as they have not yet remunerated any of the medical men for their services in giving certificates to the insured persons.

A motion was also passed urging that insured persons who have not selected a medical man on the panel should be distributed equally among the medical men in the same dispensary district. At a meeting of the members of the County Antrim Local Medical Committee, held in the town hall, Ballymena, it was decided, at the request of the Irish Medical Committee, to renew the agreement with the Insurance Commission until March 31st next.

Derry County Infirmary Salaries.

The committee of the Derry Infirmary advertised for an assistant medical officer, at a salary of £80 per annum, with apartments, and it was announced at a meeting of the committee on Jan. 13th that there were no applicants, the excuse being the demand for junior practitioners in England to work the National Insurance Act. It was then decided to offer a minimum salary of £90, and not exceeding £100, and to appoint a subcommittee to communicate with some of the medical schools with a view to obtain applicants.

The late Mr. J. Gorman, Bangor.

On Jan. 12th, at a meeting held in Bangor, co. Down, it was decided to erect a memorial to the late Mr. J. Gorman, L.R.C.P. & S. Edin., to take the form of an enclosed grave and tombstone in the cemetery and to endow a free bed in the Bangor Hospital, with which Mr. Gorman had been so closely associated since it was built.

Epidemic of Measles in Armagh.

There has been recently a very serious epidemic of measles in Armagh and district, especially among children, and in several cases there have been as many as four deaths in one house. The schools have not yet been reopened.

Jan. 20th.

PARIS.

A Leguminous Regimen in Diabetes.

Dr. Marcel Labbé has urged before the Académie de Médecine the claims of a dry vegetable regimen for diabetics, particularly those threatened with acidosis and coma. He considers this an advance on von Noorden's oatmeal cure, which is not borne equally well by all. Dr. Labbé is particularly concerned over the danger of albumin for diabetics, and he entirely forbids meat. He causes each patient to take daily 300 grammes of dry vegetables, 150 grammes of butter, from 3 to 6 eggs, and 3 to 6 aleurone rolls. He allows from 3 to 4 glasses of red wine and some green vegetables. For the customary dry vegetables—peas, haricots, beans—may be substituted soy beans, which are very rich in albumin and poor in starch, but they are difficult to cook. This regimen is usually preferred by the patients to one of oatmeal and milk; it is more satisfying and causes neither constipation nor diarrhœa. The treatment must be followed at least three days—often much longer. The glycosuria does not rise higher than with an ordinary mixed diet in which the carbohydrates have been reduced to the inevitable minimum. Occasionally it falls even lower, and sometimes it disappears completely, when the previously named diets have remained ineffective in that respect. Dr. Labbé thinks that the starch, as well as the albumin, of dry vegetables is better assimilated in diabetics than those of other foods. This regimen is said to overcome the nitrogenous denutrition and emaciation, to cause the disappearance of the insomnia and anorexia, and to obviate the danger of coma. It diminishes urinary acidity and diaceturia and affords a minimum of acetonuria. These results appear to be dependent on the peculiar chemical properties of leguminous albumin and starch, assimilation of which seems to take place under conditions different from those obtaining for cereals.

Institutes of Puericulture.

The directorate of the Assistance Publique has ordered the establishment of 11 institutes of puericulture in the hospitals. Two years ago such an institute was established by a decree of the Prefect of the Department of the Seine, acting on a resolution of the general and municipal councils, at the Hospice des Enfants Assistés in the service of Dr. Variot. The decree was, however, quashed by the Conseil d'État as not complying with legal requirements. On the other hand, as courses in infant hygiene and infant consultations exist in a large number of hospitals, the administration of the Assistance Publique was unwilling to accept this unique institute, which would seem to enjoy a kind of monopoly and which it had had no direct part in initiating. The new decree establishes 11 such institutes, which are chiefly, however, rather a transformation of the infant consultations already existing in the obstetrical services of the hospitals, with the exception of that of Dr. Variot, which is a true pædiatric clinic. These institutes are to be opened in the services of Professor Ribemont-Dessaigne at the Beaujon, Professor Bar at the Tarnier clinic, Dr. Doléris at St. Antoine, Dr. Variot at the Hospice des Enfants Assistés, Dr. Bonnaire at the Maternité, Dr. Boissard at the Lariboisière, Dr. Lepage at the Boucicaut, Dr. Tissier at the Charité, Dr. Potocki at the Pitié, Dr. Demelin at St. Louis, and Dr. Bouffe at the Tenon. On the medical and obstetrical *chefs de service* is imposed the duty of the teaching and the charge of the infant consultations. No special remuneration is attached thereto. The *chefs de service* charged with the control of an Institute of Puericulture are to make to the Administration a yearly report on its working, the number and dates of the consultations, the number of children examined, the number of students who have taken the course, the quantities of milk distributed, and so forth.

The Campaign against Alcoholic Beverages.

Under the name of "L'Alarme" there has been established in Paris an Anti-alcoholic Committee to organise in the principal towns of France before the next election a series of meetings against the use of alcoholic drinks. This committee, presided over by M. Henri Schmidt, a deputy for the Vosges, has received the patronage of many eminent politicians from varying localities. Without taking any active part in the political contests the committee will call upon the electors to insist that their respective candidates shall make necessary anti-alcoholic reforms a part of their programmes. The first meeting was held on Jan. 18th at Nancy, and M. Henri Schmidt and Dr. Lucien Jacquet, physician to the Hôpital St. Antoine, were among the speakers.

Antityphoid Inoculation.

Dr. Lajoanio, médecin-major of the 7th Battalion of Chasseurs Alpins, has presented to the Académie de Médecine a communication of great significance regarding the polyvalent vaccine prepared by Professor Vincent at the School of Military Medicine at Val-de-Grâce. This regiment for 18 months under the torrid sun of Morocco had to sustain repeated attacks by day and night from the Moroccan troops. All around malaria, dysentery, and typhoid fever were decimating the troops. The first two of these diseases did not spare the 7th Chasseurs, but not one of its vaccinated men took typhoid fever, and further proof that the vaccination was the effective agent in prevention lies in the fact that the only two men who contracted the fever were two who had not been vaccinated because, as they had had typhoid some years before, vaccination was not considered necessary in their case. This study further shows that the strains of typhoid bacilli in Morocco are of particular virulence, for the instances in which military men and civilians who had previously had the disease contracted it afresh in a severe form in Morocco were numerous. Typhoid fever raged furiously in Morocco during 1912, for it attacked 170 per 1000 among the unvaccinated. The experience shows the value of Vincent's vaccine, which is a polyvalent vaccine prepared from many strains of bacilli.

The Treatment of Leishmaniasis by Ehrlich's Method.

At the Société de Dermatologie Dr. Jeanselme reported the good results obtained from salvarsan in a patient attacked with Biskra boils. He was a young assistant medical officer who had been on campaign for a year in the oases of Southern Algeria. He contracted the disease at Biskra in September last and returned to France on Oct. 10th. The first boil made its appearance from 12 to 15 days later. In two months ten new foci had developed. As this disease is undoubtedly due to leishmaniasis, and as M. Nicolle and M. Manceau had already obtained encouraging results in that disease with arsenical treatment, M. Jeanselme, after satisfying himself that the Wassermann reaction was negative, gave

three intravenous injections of neosalvarsan and two of salvarsan. A complete cure ensued in 20 days. This is the most energetic treatment yet found against this disease.

Jan. 19th.

VIENNA.

End of the Conflict between the Sick Clubs and their Medical Officers.

AFTER having continued for more than a year the conflict between the Austrian Krankenkassen, or sick clubs and friendly societies, on the one hand, and their medical officers on the other, has come to an end which shows no victors nor vanquished. The chief point of discussion was lately the dismissal of those practitioners who had accepted positions as medical officers appointed by the clubs in spite of the boycott proclaimed in regard to these appointments by the organisation of practitioners in Lower Austria. The clubs had procured their services by offering high salaries, and had had to make long contracts with them. Now the united medical profession has demanded their dismissal as a protection against the importation of non-unionists in any similar dispute which may take place in time to come. After protracted negotiations, which were broken off more than once, for both parties were indisposed to give way on this particular point, the efforts of the Government brought about a compromise acceptable to both sides. The non-unionist medical officers might remain, but those who had refused to work on the old conditions had all to be reappointed, so that the sick clubs have now to pay not only their former medical officers, but also the substitutes whom they had employed at great expense, although the services of these latter are now absolutely superfluous. Furthermore, 200 new appointments have to be made within two years, and the remuneration will be either on the basis of so much per patient in small districts with less than 1000 members or for a fixed sum which must average at least 5 kronen for each insured member, surgical operations and midwifery to be extras. The contracts will be made under the supervision of the above-mentioned medical unions, with due consideration for the kind of work in the respective districts. The control of the medical work will be effected only by medical men—hitherto it has not been always so—but the controlling agents shall not be entitled to alter the treatment or to dismiss a patient from the sick list unless the regular medical attendant takes a similar view of the case. Altogether, the profession although it has not accomplished all its intentions, may be well satisfied with the results obtained, and there is no doubt that this first successful outcome of a serious conflict between a large medical body and the sick clubs will have a most beneficial effect on all future disputes, as showing the Krankenkassen that their authority has its limitations.

Sexual Diseases amongst University Students.

The Austrian Society for Combating Sexual Diseases has made a remarkable advance in its endeavours to eradicate the scourge of sexual diseases by establishing a special ambulatorium at which students of the Vienna universities are the only patients. The attention of the principal promoters of the objects of the society was drawn to the fact that so many men engaged in the "free" vocations were victims of gonorrhœa and syphilis, which they had acquired between the ages of 20 and 25 years, while they were students at the university. They are often ashamed or afraid to go to a regular practitioner for treatment, preferring to rely upon the knowledge of some friend or the advice of some quack to cure their illness. Therefore the society at once started the above-mentioned ambulatorium with a competent specialist at the head of it, and the recently published report for the first seven months of its existence shows that 482 patients applied for advice and made 3968 attendances. There were 31 cases of syphilis, 268 of gonorrhœa, 12 of soft sore, and the remainder either suffered from some other complaint or had no illness at all. The attendances at the ambulatorium increased up to as many as 59 patients per day. In the later months the ambulatorium was also attended by students of "gymnasia," or what we call Latin schools (boys from 10 to 18 years); from these schools there came to the institute about 39 patients aged between 15 and 19 years. Even these figures show that such an institute is a necessity here, for it must be kept in mind that the real number of affected youths and university students is considerably in excess of the figures given above, because it is not yet generally known among them that there exists a special ambulatorium where help and advice are provided for them in a spirit of philanthropy.

Jan. 19th.

ITALY.

Professor Murri.

A GREAT demonstration was made to Professor Murri at his lecture to inaugurate the new academic year. The ceremony was one of especial importance as the first public appearance of Professor Murri since his serious illness last summer. The hall was packed with an audience of students of all the faculties of the university, professors, ex-pupils, and the notabilities of the city of Bologna. His entrance was greeted with a triple round of applause and addresses of congratulation were offered, first by one of the medical students, then by one of the professors of the Medical Faculty, and lastly by the President of the Association of Medici Condotti. Professor Murri, who appeared in the best of health, after thanking his audience for his reception, gave a brilliant address, in which he emphasised the undiminished importance of the inductive method in medicine.

The Agitation of the Doctors of the Hospitals in Rome.

Professor Bastianelli, as president of the section of Medici Ospedalieri in Rome, was able to announce to a crowded meeting last month the satisfactory solution of a number of the questions which interest in the closest manner the welfare of the doctors of the Roman hospitals. A commission nominated by the section to confer with the Royal Commissary, Comm. Gajeri, had come to an agreement with him on a number of important points, such as the right of the doctors to treatment in hospital and their claim to a day's rest each week. On the much vexed question of the tax upon application for appointments the Royal Commissary had expressed his willingness to reduce the amount from lire 200 to lire 10 or 15, but the meeting refused to accept this concession, preferring to contest the legality of the imposition of a tax at all.

Foreign Doctors in Italy.

The council of the federation of the Ordini dei Medici at a recent meeting discussed the

ever recurrent theme of the foreign doctors. The Order of Porto Maurizio raised the question of the facility with which foreign doctors could obtain the *rivalida* of their diplomas, and hence the right to practise freely in Italy. The council decided to call once more the attention of the medical faculties of Italy to the necessity of being very severe and careful in the concession of the *rivalida* for the due protection of the Italian medical profession, and especially in defence of the dignity of Italian science.

Medical Biography.

The Istituto Micrografico Italiano is bringing out under the auspices of the Società Italiana di Storia Critica della Medicina e delle Scienze Naturali a series of lives of celebrated Italian physicians and naturalists. The first volume, upon the life and work of Bartolomeo Eustachi, has just been issued. It is a small book of 80 pages and is published at 1 lira. Others promised include Valsalva, Morgagni, and Aulus Cornelius Celsus.

Jan. 15th.

SOUTH AFRICA.

Medical Department, South African Defence Force.

REGULATIONS providing for a Medical Department of the South African Defence Force have just been promulgated. The Department is to consist of three sections, the Permanent Force Section, the Citizen Force Section, and a Voluntary Aid Section.

The Permanent Force Section is to consist of a staff officer for medical services at defence headquarters, a medical officer in charge of a medical training school, staff medical officers, including medical staff quartermasters and subordinate staff—viz., hospital staff sergeant-majors, hospital staff sergeants, hospital sergeants, hospital corporals, and hospital orderlies. Officers of the Medical Department are to be members of the Permanent Force (staff), and will be graded as first, second, or third grade staff officers with the pay assigned to those grades, and rank as follows: First grade, major or lieutenant-colonel; second grade, captain or major; third grade, lieutenant or captain. The staff officer for medical services may also be required to undertake the duties of an assistant medical officer of health for the Union on such conditions and at such rate of emoluments as the Government may decide. Medical staff quartermasters will be first class or second class with pay accordingly. Those of the first class are to hold the rank of captain; of the second class the rank of lieutenant. The subordinate staff will be recruited as far as practicable from the non-commissioned ranks of the Permanent Force, any of whom below the rank of sergeant, after undergoing a prescribed course of instruction in medical duties, may be required to serve for one year as hospital orderlies, one year as hospital corporals, making a total of two years in the Medical Department, and three years as hospital sergeants. Appointments as hospital sergeant-majors will be made from those hospital sergeants who have passed a qualifying examination for the higher appointment, and these will have the rank of warrant officers. Hospital orderlies and corporals who are returned to regimental duty, at the conclusion of their periods of appointment as such, may receive medical staff pay (non-pensionable) at the rate of 6*d.* a day so long as they hold regimental rank not higher than corporal and provided they come up for, and qualify annually at, a refresher course of medical training.

The scheme sounds well enough, but is not difficult to criticise. First, the force is to be under a lay officer, the Inspector-General, who, although doubtless guided by the staff officer for medical services, cannot be expected to appreciate medical needs or requirements, and apparently even his adviser may at any moment be taken away from him to act as an assistant medical officer of health for the Union. In the second place it must to great extent be a paper force, for the Permanent Defence Force are really mounted policemen scattered throughout the frontier districts of the Union. At any rate, the five regiments are so broken up into small units that there will seldom be any considerable aggregation of its members except in time of civil commotion or war—certainly not enough at any time to warrant the establishment of a military hospital for the sick and the training of orderlies and hospital officers of different grades.

The citizen force section is apparently "on its own" in each district, and is directly under the Commandant General, who presumably will be advised also by the staff officer for medical services. It provides for an assistant director of medical services being appointed for each military district or for a group of military districts to take command and supervise the technical training of the *personnel* and units of the Citizen Force Section detailed for medical services in that district or group of districts, and to advise as required upon all matters connected with the medical and sanitation services of the Coast Garrison and Citizen Forces in that district. Deputy assistant directors of medical services may be appointed for any military district or subdivision thereof as sanitation officers, and to assist generally the assistant directors in their duties. Assistant directors may be granted the rank of lieutenant-colonel, deputy assistants the rank of major. Except in case of appointments as assistant and deputy assistant directors of medical services, first appointments to commissions as medical officers will be made to the rank of captain. In no case is a person to be eligible for appointment as a medical officer unless he is registered under one of the Medical Acts in force in the Union and is between the ages of 21 and 35 years. Within two years of first appointment a medical officer will be required to attend at the medical training school for a period of one month, during which a course in the following subjects will be undergone: the South Africa Defence Act and regulations framed thereunder and the Union military discipline code, the duties and powers of medical officers, medical organisation, administration and equipment, map-reading and elementary tactics, military sanitation, and Part 4 Royal Army Medical Corps Training. Promotion examinations in other than professional subjects will have to be passed before captains can be promoted to majors, and promotion to the rank of lieutenant-colonel will only be given when there are vacancies on the establishment of that rank, and will be made by selection from the rank of majors who have qualified for that rank by examination. Any medical practitioner is eligible to serve in the Reserve of Officers without having previously held commissioned rank, and on appointment he may be given such rank not below the rank of captain as may be considered suitable to his position and standing. Officers will draw the pay and allowances of their rank as prescribed in the regulations for pay and allowances, Active Citizen Force. During periods of continuous training and on such other occasions as may

be authorised by the Minister, medical officers may draw, in addition to any pay or allowance due to them under those regulations, a medical staff allowance at the rate of £1 10s. per diem, presumably to cover the cost of a locumtenent. During attendance at special courses at the medical training school or elsewhere medical staff allowance at one half of this rate may be granted, provided the prescribed certificates are obtained. The provisions generally for the Citizen Force section are very elaborate and may or may not prove workable, but the general opinion that is held amongst those competent to judge is that they are unsuitable for South Africa.

Appointments in Permanent Force: Medical Department.

Dr. P. G. Stock, formerly assistant medical officer of health of Johannesburg, has been appointed Staff Officer for Medical Services, with the rank of Major. Lieutenant-Colonel G. H. Knapp, formerly principal medical officer, Cape Colonial Forces, has been appointed Lieutenant-Colonel in the Medical Department Permanent Force, whilst Surgeon-Captain F. H. Walsh, formerly in the Cape Mounted Rifles, and Staff-Surgeon H. R. Brown, of the Natal Police, are appointed Captains in the same department.

Dec. 15th, 1913.

Obituary.

HENRY ALBERT REEVES, F.R.C.S. EDIN.

THE death occurred on Jan. 16th, at the age of 73, of Mr. Henry Albert Reeves, late of Grosvenor-street, London, W., formerly assistant surgeon at the London Hospital, surgeon to the Royal Orthopædic Hospital, Oxford-street, the Hospital for Women, Soho-square, and the Hospital for Women and Children, Shadwell.

Mr. Reeves s best work, both general and special, was done some years ago, and his name, save to those acquainted with his writings, is now no longer familiar. But in his day he was a well-known operating surgeon. His "Human Morphology," published in 1879, was said by the *Saturday Review* to be the "finest book ever published on the subject in this or any language," and his "Bodily Deformities" is also a notable work. In operative surgery (he was ambidextrous) he attained to high proficiency, and when he finally concentrated on orthopædics, resigning all other appointments to do so, he was recognised as an authority on the subject. But differences of opinion at the Royal Orthopædic Hospital as to selling the site and amalgamating with the Orthopædic Hospital in Great Portland-street, of which he strongly disapproved, led to the severing of his connexion with this institution, much to its loss, as, apart from his skill, he was greatly loved by his patients, especially those of the poorer classes.

A personal friend writes: "Mr. Reeves was always a lover of books, and gradually he abandoned himself almost entirely to their study. With an immense library, in five different languages, to which he was constantly adding, few scientific and thoughtful books that were published did not come under his ken, and in his search for truth possibly his investigations covered too vast a field for his own advantage. But his erudition was enormous, and latterly he had devoted his whole attention to a scientific study and sifting of all the religions of the world, of which he probably knew as much as any man living, and his book on the subject was almost ready for publication when it was stopped by the illness that attacked him a year ago and ended fatally last week."

Mr. Reeves was married to the well-known novelist, Helen Mathers.

ALEXANDER S. L. NEWINGTON, M.B. CANTAB., M.R.C.S. ENG.

ON Jan. 17th, while driving his car near Ticehurst, Sussex, Dr. Alexander Newington met with an accident and sustained injuries which were rapidly fatal. He had put the brakes hard on to avoid colliding with a motor-dray and the skid threw him from his seat into the road upon his head.

Alexander Samuel Lysaght Newington was born in 1846, the son of Dr. Samuel Newington. His grandfather was the founder of the well-known private asylum for the insane at Ticehurst, and his father succeeded in due course to its management. He was educated at Bromsgrove School and as a lad went to India as a planter, but after five years he returned to England and entered at Caius College, Cambridge. Having practised rifle-shooting in India he was soon a member of the University team, and won many prizes. Proceeding to St. Thomas's Hospital he qualified as M.R.C.S. in 1874, and became house physician to the famous Murchison. In the following year he took the degree of M.B. Cantab., and settled down in a village practice in Oxfordshire. About the same date he married Gertrude, eldest daughter of the late Dr. Robert Barnes, one of the leading obstetricians of that day.

A few years later, in the early "eighties," Dr. Alexander Newington returned to Ticehurst as physician to his father's asylum, and from that time until his death he remained associated with it. At one time a brother, Mr. Theodore Newington, was also on the medical staff there, but latterly Dr. Alexander Newington and his cousin, Mr. H. F. Hayes Newington, have been the joint proprietors of, and physicians to, the asylum.

Dr. Alexander Newington had been an enthusiastic motorist since the earliest days, and was among the first medical men in this country to own a car. His interest in this subject was always keen, and he had a thorough knowledge of the mechanism and design of cars, acquired in the days when road repairs were an almost daily necessity. He was a most experienced driver. He contributed little to professional literature, but his hereditary bent towards alienism was shown by his choice of a subject for a graduation thesis—puerperal insanity. Mrs. Newington survives him; there is no issue of the marriage.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. E. Ponfick, of Breslau, Privy Medical Councillor.—Dr. E. Cohn, of Frankfort, Privy Medical Councillor.—Dr. T. H. Knoll, of Aix-la-Chapelle, Sanitary Councillor.—Dr. John G. Cecil, formerly professor of medicine in the University of Louisville.—Dr. A. Tesson, formerly professor of chemistry and toxicology in the Angers Medical School.—Dr. E. Baudrimont, formerly surgeon to the Bordeaux hospitals.—Dr. Gustav Pfalz, *docent* of ophthalmology in the Medical Academy of Düsseldorf and president of the Rhine Medical Association, aged 55.—Dr. Hans von Wyss, *privat-docent* of medicine in the University of Zürich.—Dr. Wentscher, of Thorn, Privy Medical Councillor, a prominent official of the German Medical Association, aged 62.—Dr. Springeld, of

Osnabrück, formerly of Königsberg, whose work as a government official in the medical and sanitary department brought him into considerable prominence. His writings dealt with legal reforms concerning the medical and pharmaceutical professions. He was 49 years of age.

Correspondence.

"Audi alteram partem."

THE USE OF VACCINES IN PNEUMONIA.

To the Editor of THE LANCET.

SIR,—At this inclement season of the year and with a probability of an accession in the prevalence of pneumonia in the next few weeks, I am tempted to make a few remarks suggested by Sir Almroth Wright's two communications and your interesting leader, in the hope of eliciting opinions as to the immediate prospect of utilising vaccines for pneumonia with greater advantage.

With regard to their use in prophylaxis one would gather from Sir Almroth Wright's tables that whilst of some decided value in lessening the incidence of the disease (Table XIII.),[1] the efficacy of the vaccine in this respect is not enduring. The probable incidence of pneumonia in towns in this country is about 5·33 per 1000 of the population, large enough indeed, but not such as would suggest any general use of vaccines for prophylaxis. Moreover, in the absence in European countries of the exceptional personal conditions present in the tropical labour population of the South African mines, pneumonia is not met with, even amongst concentrated labour communities, in the proportions of a contagious epidemic. It is true that a few instances of outbreaks of epidemic pneumonia have been recorded, such as that affecting a regiment of British troops in New Brunswick in 1867 and in the Punjaub in 1883 and 1884. In such outbreaks preventive vaccines might be of use.

It is now well known, owing to the observations and experiments of Netter, Bezançon, and Griffon with others, that the majority of healthy people in civilised communities have the pneumococcus amongst other organisms with virulent possibilities always more or less present in their naso-pharyngeal and buccal cavities, and that these organisms are more numerous in those who have recently had pneumonia and during prevalence of the disease.

A common source of infection is, therefore, ready to hand, and a prophylactic measure more practicable and perhaps more efficacious than vaccines would be to advise persons, especially catarrhal persons and during pneumonia periods, to use daily naso-pharyngeal lotions or douches to keep their upper air passages cleansed.

We next come to the use of vaccines in the disease as a therapeutic measure. Sir Almroth Wright declines to make any therapeutic recommendations, reserving such as the outcome of a future inquiry, but he evidently thinks that a suitable vaccine may be of value in the commencement, and especially the "incubation period," of the disease. In the course of his researches he and his colleagues inoculated a certain number of persons who proved to be on the verge of attack, thus covering the "incubation period" of the disease, and he claims that considerable doses of vaccine at this period have proved efficacious in aborting the attack and lessening the mortality. The Table (XVIII.) adduced in favour of this view appears to me by no means conclusive, the case numbers being very small, the mortalities showing great variations, and the controls not quite on a parity with the cases chosen. But they are at least suggestive for further inquiry.

As regards the composition of the vaccine, Sir Almroth Wright points out justly and confirms with his great authority, the observations of others that the strains of the vaccine vary considerably with individual cases, and he further finds that whilst insufficient doses are useless, too large a dose, over 1000 millions, for the tropical cases with which he was dealing appeared to be harmful.

Considerable experience must by now have accumulated on this difficult question of the use of vaccines in pneumonia. I have hitherto been in the habit, in cases threatening to prove severe or complicated, of suggesting that a vaccine should be prepared from the sputum early in the attack, to be used in the event of continued severity, or relapse of symptoms with fresh accessions of the disease, and in some cases of slow resolution. I cannot say that I have so advised with great conviction.

The "incubation stage" of pneumonia is generally conspicuously absent. The illness of the patient, as a rule, begins abruptly with the attack, with rigor, rise of temperature, pain or discomfort, and hurried breathing. For a day or two there is often no sputum. If any vaccine be used at the commencement, therefore, it must be a stock vaccine. Are such vaccines of value? The consultant is rarely called in at this early period of the disease. Having regard to the varied strains of organisms in individual cases and at different times of prevalence, it might be of value on the occurrence of each fresh outbreak to "pool" cultures taken from a few of the earliest typical cases for a vaccine to be employed, at the commencement of the disease, in those cases in which the use of a vaccine is decided upon. The great central hospitals and the various research institutions could easily prepare such vaccines, which would probably include the organisms engaged in the prevailing examples of the disease.

I am aware that a discussion will shortly take place at the Royal Society of Medicine on vaccines, but probably it may be on other lines than that of pneumonia, which I take to be especially interesting and important at the present moment.

I am, Sir, yours faithfully,

Portland-place, W., Jan. 17th, 1914. R. DOUGLAS POWELL.

[1] THE LANCET, Jan. 10th, 1914, p. 88.

TREATMENT OF GASTRIC AND DUODENAL PERFORATION.

To the Editor of THE LANCET.

SIR,—While congratulating Mr. Edred Corner on the success that has followed the "corking" or "plugging" of perforations,[1] I am inclined to think that he has been led to regard the method with undue optimism. By way of contrast, let me briefly record my own experience. On Dec. 12th I was summoned to a case of perforation in a man and operated within five hours of the onset of

[1] THE LANCET, Jan. 10th, p. 101.

symptoms. I found a perforation on the small curvature just on the proximal side of the pylorus, with the usual ring of induration around. I drew the edges together and infolded the wall of the stomach by mattress sutures placed deeply in the indurated tissue. The operation was completed in the usual manner with a wick drain down to the vicinity of the sutures together with a pelvic drain. The result was an uneventful recovery. The following day I had another case in a man of 70 in whom the perforation had existed for nearly 24 hours owing to the fact that the onset was not very typical; at the time of the operation the patient's condition was so good and the symptoms so slight that one almost doubted the correctness of the diagnosis; on opening the abdomen a large quantity of fluid escaped together with some gas, a perforation was found in the thickened small omentum just above the small curvature, and on gently inserting the tip of the finger the opening into the stomach was felt on the posterior wall at the small curvature. Owing to the situation of the perforation and the induration and fixation of the surrounding tissues it at once occurred to me to treat the case by means of a plug. As suturing would have been been very difficult a plug was placed in the opening in the small omentum and the operation completed with free drainage of the pelvis and right flank. The following day the patient expressed himself as feeling much better; he was sitting up in the Fowler position reading the paper when I saw him. There had been a copious discharge from the tubes which continued, and on the third day it was evident there was a leakage from the stomach. The skin all round the wound became intensely irritated by the acid secretion, and as soon as any food was given it poured from the wound. The patient rapidly became exhausted and died on the sixth day.

Although the case may not have been a very favourable one in that the perforation had been present nearly 24 hours, and the patient may be described as having reached a full term of years, yet he was by no means a feeble old man, and inasmuch as he did not die from peritonitis I am inclined to think he might have recovered had I closed the perforation. Of this I am sure, that had I the opportunity of doing the operation again I should make a very determined effort to do so. But apart from my unfortunate experience, I fancy there are few surgeons who would regard this method of plugging as the normal method, but rather that it should be reserved for an emergency, by which I mean for a case in which the chances of closing the perforation are so slight and the patient's condition so unfavourable that it is not advisable to waste valuable time in the attempt. What does Mr. Corner advocate? Rather than make any attempt to close the perforation he deliberately plugs or corks it, so that when the gauze plug is removed an escape of the gastric contents is almost inevitable, but which Mr. Corner assures us is only temporary and of little consequence. On the contrary, I think it must add greatly to the risk of the operation and discomfort of the patient, as it is well known how rapidly the gastric juice irritates and digests the skin, as in the case referred to above.

Does not Mr. Corner rather overstate his case when he says that the tissues are frequently too soft to hold stitches and that it is better not to attempt to close the perforation? I am prepared to admit that occasionally one may meet with a case in which one may not feel quite satisfied that the stitches will hold; but even if only partially successful, surely it is better than making no attempt as the opening will be so much the smaller from which leakage may occur, and this is provided for by means of a gauze drain down to the vicinity of the perforation. I quite agree that a gastro-enterostomy is very rarely needed at the time that the perforation is operated on, and rarely subsequently.

I am, Sir, yours faithfully,

Wimpole-street, W., Jan. 20th, 1914. DOUGLAS DREW.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Jan. 10th Mr. Edred M. Corner draws attention to the method by which the perforation, when this for any reason cannot be closed by suture, is utilised for the formation of a temporary gastrostomy. Treatment on these lines, though hardly mentioned in text-books, is probably well known to every surgeon. It was first brought to my notice some 10 years ago in the practice of the late Mr. Connell Whipple. Mr. Corner does not mention turning up the omentum round the perforation. The omentum, whenever available, should always be employed for this purpose.

The question of post-operative feeding is not quite so simple as it at first sight appears. It is true that "rectal saline," if absorbed in large quantities (and there is a great difference between a nurse who can "give" and a nurse who can "cause to be absorbed," large quantities of saline solution), will suffice for a few days, after which the question of feeding may at any time become urgent. A prolongation of the operation for a few minutes will allow of provision for feeding being made as follows.

If the perforation is in the duodenum, plug the perforation with a stout-walled rubber catheter passed down the duodenum, the outer portion of the catheter being sewn to the skin and clamped. The omentum and gauze are packed round the duodenum and catheter. If the perforation is in the stomach a rubber catheter, stiffened by a stylet, is passed through the perforation, across the stomach, and through the pylorus into the duodenum. The stylet is then withdrawn. A large stout-walled rubber tube, with a lateral opening near its deep extremity, similar to that used for drainage of the bladder after suprapubic prostatectomy, is slid over the outer end of the catheter into the stomach through the perforation. The projecting portion of the catheter is sewn to the edge of the large tube and clamped. Gauze and omentum are packed round the large tube. By this means liquid nourishment can be poured through the catheter into the duodenum. A hollow tube is preferable to gauze for plugging the gastric perforation, the tube permitting the escape of gas and fluid which are apt to collect in the stomach, which accumulation took place in one of the cases recorded by Mr. Corner. The hollow tube does not need removal at the end of 48 hours as does the gauze plug, the removal of which entails the administration of an additional anæsthetic to a patient who is severely ill, a procedure which can hardly be considered advisable.

It must be expressly understood that the above expedients are suggested only for those cases in which the condition of the patient or the state of

the tissues puts out of court the more radical treatment, which will be required later in the event of the survival of the patient.

I am, Sir, yours faithfully,

Plymouth, Jan. 17th, 1914. C. HAMILTON WHITEFORD.

To the Editor of THE LANCET.

SIR,—I am very much interested in everything that my friend Mr. Edred Corner writes, and this is especially so with regard to his paper in THE LANCET of Jan. 10th. I must say that on this occasion I am surprised to find that he has had such good results in the treatment of gastric and duodenal perforation by the method he describes. However, I know that there are very many ways of attaining the same end, and though I do not propose to try his method I shall watch with great interest the results in his own hands.

There is just one sentence, however, to which I must draw attention, but only to sound a note of warning. Mr. Corner says, "Fears of more than a temporary and brief gastric fistula may be dismissed." In my experience gastric and duodenal fistulæ are very serious complications indeed, and I have seen several cases in which they have rapidly led to the death of the patient. As this method is put forward as especially useful for those with limited experience in surgery I think it most important to draw attention to this aspect of the matter, because, though Mr. Corner has been successful in a series of cases (he does not say how many), I feel quite confident that if this method is at all widely practised it will be followed by many fatalities from gastric and duodenal fistula.

In his summary Mr. Corner says that in the hands of experienced and facile operators the excision of the ulcer followed by suture of the wound, &c., may be better and result in the recovery of the patient. This rather presupposes that excision of the ulcer is a necessary part of the operation for perforation, but this is certainly not so, and in my series up to date (76 cases of gastric and duodenal perforation with 15 deaths) I have only twice excised the ulcer during the course of an operation for perforation.

Closure of the ulcer by suture may take more time than the method which Mr. Corner describes, but I shall be very much surprised if it does not turn out to be by far the safer method, and therefore attended with a smaller mortality.

Most writers on this subject speak of the need of saving time in the operation, but I always feel that it is much better to spend a little extra time on the operating table than to express regrets at the post-mortem table. I doubt if a patient often dies because of the extra time spent in careful suturing, but I am quite sure that they very often die for the want of care in the performance of emergency operations.

I should like very much to know how long it takes Mr. Corner to do this operation. I must confess that the treatment of a simple perforated gastric or duodenal ulcer with irrigation of the peritoneum—in which I believe—takes me 30 or 35 minutes, while in those few cases in which I think it wise to perform gastro-enterostomy at the same time the operation occupies from 45 minutes to an hour, and in difficult cases perhaps a quarter of an hour longer.

I am, Sir, yours faithfully,

Newcastle-upon-Tyne, Jan. 12th, 1914. G. GREY TURNER.

THE STERILISATION OF MILK AND ALLIED QUESTIONS.

To the Editor of THE LANCET.

SIR,—It would be a very regrettable circumstance if the sweeping statements expressed by Dr. R. Vincent in THE LANCET of Jan. 17th on the above subject were to be accepted as representative of present-day medical opinion. In his letter he refers to the "appalling" results of feeding children on cooked milk.

As chairman of the Association of Infant Consultations and Schools for Mothers—an association to which some hundred local societies are affiliated—I am in constant touch with a large number of medical officers and superintendents of centres to which a very considerable number of healthy infants are brought for advice and treatment, and I may say that the vast majority of these medical men and officials hold views diametrically opposed to those of Dr. Vincent. We receive reports also from a very large number of infant consultations which are not affiliated to the central association, and some of the best results of which we have records are from those consultations at which desiccated milks are exclusively used for the artificial feeding of infants, and desiccated milks are milks which have been submitted to a somewhat severe cooking process. In Marylebone the infant death-rate has fallen in 13 years from 190 per 1000 births to well below 100, and during this period, owing to the active campaign carried on by the municipal authorities and the local health society, the use of unboiled milk has been reduced almost to the point of extinction. The fall in the tuberculosis rate has been equally sensational. Could these results be if cooked milk were the unmitigated evil Dr. Vincent would have us believe?

I am at present engaged in re-examining the old cases who have passed through my infant consultations, some as long ago as 1906. I am quite surprised to see how favourably the children who were reared on boiled milk compare with the average London child of the same age; and, indeed, with many of the exclusively breast-fed children of the same age who also attended at the consultations.

Personally, I hold no brief for cooked milk. When good fresh milk can be guaranteed I see no reason why it should be boiled, and I frequently order it for patients who can afford to buy it. But I can distinguish no difference, judged by any criterion with which I am acquainted, whereby infants fed on raw milk can be distinguished from those fed on cooked milk, although I could very easily pick out a group of selected cases from either class which might be made to prove the case which ever way I desired.

In view of the discovery of the vitamines, and in view of the great progress recently made in the fundamentals of nutrition, it surely is an anachronism to write vaguely about "mysterious diseases" in children which baffle their own doctors, but which are at once explicable to Dr. Vincent in the terms of cooked milk. In America, the home of certified milk, not only are the original and most fervent pioneers of this movement now converted to pasteurisation, but they are among the most active agitators for the pasteurisation even of certified milk of the highest grade. In conclusion, I would quote a translation from Professor Porcher's recent book "Le Lait Desséché" (p. 86): "At a certain infant clinic in Belgium the infant mortality rate was 260 in 1901. In the

year 1903 sterilised milk was introduced, and the rate fell to 150. In 1907 trained health visitors were employed and the rate further fell to 60 per thousand. In the year 1908 dried milk was substituted for sterilised milk and the rate fell to 34 per thousand." Facts of this kind—and, thanks to the work of infant consultations, they are daily becoming more common—are more eloquent than pious opinions.

I am, Sir, yours faithfully,

Harley-street, W., Jan. 15th, 1914. ERIC PRITCHARD.

To the Editor of THE LANCET.

SIR,—May I add my humble experience to the weighty evidence presented by Dr. Ralph Vincent in favour of the raw-milk feeding of infants?

My attention was first drawn to the subject during a very severe epidemic of diarrhœa in Mid-Kent some 24 or 25 years ago. I was then led to suspect that boiled-milk feeding had a good deal to do with the incidence and fatality of the complaint, and ever since have been a convinced opponent of boiled and advocate of raw milk as a diet for both children and adults. Needless to say, I have in consequence been "up against" general professional opinion, and more especially against almost universal medical officer of health opinion, but this I have, though with some loss in fees and credit, to my private entire satisfaction completely disregarded. The improved health following the change of diet has been so immediate and pronounced that usually there has been no need to prescribe anything else, and a single consultation has often sufficed to effect a cure. In no case have bad effects followed, and in no single instance has a previously non-tuberculous infant, in which the raw milk *régime* was carried out with reasonable care, been known by me to have afterwards developed signs of tubercle. It is no small gratification to me to find that Dr. Vincent has been able, at least in part, to supply the rationale of a treatment which I had adopted so long ago on grounds of clinical observation alone.

I am, Sir, yours faithfully,

Stoke Newington, N., Jan. 16th, 1914. I. B. MUIRHEAD.

LISTERISM IN LONDON IN THE "SEVENTIES."

To the Editor of THE LANCET.

SIR,—I have just finished reading the admirable "Life of Lord Lister," by my friend Dr. G. T. Wrench. He speaks of the apathy with which Lister's teaching was received and of the slow progress it made, especially in London. My teacher, Sir Henry Howse, like many great teachers and workers, wrote little, and seldom took part in discussions; further, he is very rarely seen in London nowadays, so that his pioneer work in the introduction of Lister's methods into London is unknown to the majority of your readers and unmentioned by Dr. Wrench.

Sir Henry Howse was appointed assistant surgeon to Guy's Hospital in the early part of 1870; he at once went to Edinburgh, studied Lister's methods, came back, and introduced them into Guy's Hospital in the same year—that is, a year before Lister's address at Plymouth in 1871. In 1871 Mr. Davies-Colley was appointed assistant surgeon; he, seeing the excellent results in Sir Henry Howse's wards, adopted Lister's treatment, as did all the assistant surgeons subsequently appointed. Sir Henry Howse became a full surgeon in 1874, with the care of over 60 patients, so that then all of these and all those in the beds of the assistant surgeons were treated rigidly with Lister's methods. I have recently had a letter from Sir Henry Howse in which he says that in 1867, when he was house surgeon, he began in a small way trying the methods which were published by Professor Lister, then at Glasgow. I think that these facts will, as Sir Henry Howse says, "answer, at any rate as far as one hospital is concerned, the assertion that London surgeons were slow to avail themselves of the advantage of Listerism."

Your readers will, I am sure, excuse the following quotation from Sir Henry Howse's letter. It is of historical interest:—

> In the year 1871 and for the two or three years following ..... Davies-Colley and myself were the only assistant surgeons in the hospital. According to the hospital rules we had the charge of the erysipelas wards, to which all the erysipelas and severe septic cases occurring in the general wards were transferred as they arose. We had sole charge of all these cases as well as of a certain number of beds in the general wards. In the erysipelas wards we had often to do amputations and other severe operations in beds surrounded by most highly infectious erysipelas cases and by severe septic cases such as gangrene and urinary extravasation. It was a discovery, it was a most remarkable phenomenon to us to find that we could operate on these cases in the erysipelas wards with the spray and antiseptic dressings as safely as we could in the general wards or even in private rooms. After this discovery the erysipelas wards rapidly changed their character, and from being deadly wards became almost like the other wards at the hospital. The general wards themselves underwent the same change for the better. I may cite one particular case in my own experience. I took over Naaman Ward from Mr. Cock on his resignation. From the nature of his practice he had always in it a much larger proportion of urinary cases (extravasation and such like, many of them the most offensive possible), and Naaman Ward bore in the hospital an exceedingly bad reputation. I was even advised not to take the ward as I had the choice to take some other. I had, however, by this time firmly established in my own mind the safety of the antiseptic treatment of wounds, and felt convinced that I could make Naaman as healthy as any other ward in the hospital. This was accomplished, and many old house surgeons and dressers must remember that I operated there as freely and successfully as in any other ward.

I am sorry to have troubled you with so long a letter, but I feel your readers ought to know Sir Henry Howse's pioneer work, and will be glad to have this addition to the large amount of information given in Dr. Wrench's book, especially as it softens a little the severity of its indictment against the London surgeons in the "seventies."

I am, Sir, yours faithfully,

Jan. 15th, 1914. W. HALE WHITE.

QUININE POISONING: A PERSONAL CASE.

To the Editor of THE LANCET.

SIR,—Seeing in THE LANCET of Jan. 17th Mr. J. D. Gimlette's account of three cases of poisoning by excessive doses of quinine, it has occurred to me that some account of a similar personal experience may be of interest to the profession. It must necessarily be most egoistical. At 8.30 A.M., Sept. 22nd, 1913, I had occasion to take, for pyrexia and malaise, 10 grains of quinine sulphate. I invariably take this in an effervescing solution which I keep made up in a concentrated solution of 10 grains to the drachm, with citric acid. On this occasion what happened was that I forgot the concentration and helped myself to at least a generous ounce of the solution—i.e., unknowingly I took probably 100 grains of quinine

sulphate in one dose. I then started out on my rounds in the car, driving myself, as my invariable custom. The symptoms gradually developed—deafness, a feeling of nausea, giddiness, rushing in the ears, fulness of the head, and a general sense of unreality. At 10.30 A.M. I had to resign the car to my man and recline in the back seat. I arrived home at 11.30 A.M. I felt then exactly as if I was continuously under nitrous oxide gas, with, as it were, rhythmical exacerbations. My initial error then suggested itself. I hastily consulted Dixon Mann and G. V. Poore on toxicology with a negative result. My nearest medical neighbour was five miles off. I drank some hot infusion of extract of coffee and, from which I got great relief, I held my hands in water as hot as I could bear it. From 12 noon the symptoms gradually began to lessen and then to pass off. At 2 P.M. I was able to start, not driving myself, to keep an engagement 15 miles off. I successfully accomplished this, and on the return journey was able to drive myself. The deafness continued till the next morning, otherwise I was none the worse.

It is to be noted that by the time the mistake and condition were realised emetics appeared to be useless, consequently the treatment was masterly inactivity. I would also note that on that occasion my breakfast had consisted solely of a cup of tea. Mitchell Bruce, in "Materia Medica and Therapeutics," says, "Death, should it occur, is referable to respiratory and cardiac failure." Certainly, when the symptoms were at their height, when one felt as it were as though one were continuously and permanently under nitrous oxide gas, then there was undoubtedly some heart failure. I can hardly believe though that infusion of Branson's extract of coffee acted as the necessary stimulant. There was no vomiting or double vision.

I am, Sir, yours faithfully,

EDWARD T. JONES, M.R.C.S. Eng.

Eastmeon, Hants, Jan. 18th, 1914.

THE FUNCTIONS OF THE NOSE.

To the Editor of THE LANCET.

SIR,—The annotation on this subject in your issue of Jan. 17th is most interesting and of considerable importance from the point of view of prevention in such affections as pulmonary tuberculosis, pneumonia, and influenza.

As a teacher of rhinology I have always impressed on my students the great value of the filtering function of the nose, and have gone so far as to state that I have never yet seen a case of pulmonary tuberculosis in which the nose had a normal interior. Dislocation of the inner limb of the lower lateral cartilages, or of the columnar cartilage, with or without a deviation of the nasal septum, are very commonly present in the phthisical, resulting in nasal obstruction and oral respiration, and should certainly be removed by operation as part of the treatment, both preventive and curative. I have often noticed, too, that those most liable to contract influenza again and again are those who have some form of permanent structural nasal obstruction, and that after a successful operation for the removal of such anatomical disturbances complete immunity from further attacks has followed.

I agree with Dr. Owen F. Paget that nasal obstruction from disuse of the dilating muscles of the nasal entrances is on the increase, especially in those possessing the type of nose usually known as Wellingtonian, Oriental, Roman, or Grecian, as in them the lateral cartilages are so thin, fibrous, and feeble as to be easily sucked in during inspiration instead of offering greater resistance as in the Anglo-American, fighting nose—the type of nose is largely the determining factor.

I am, Sir, yours faithfully,

Harley-street, W., Jan. 19th, 1914. WM. STUART-LOW.

To the Editor of THE LANCET.

SIR,—Your annotation relative to Dr. Owen F. Paget's paper on the Functions of the Nose reminds me of a clever little book written by the North American traveller, Catlin, in the "forties" of last century. It is entitled "Shut Your Mouth," and deals very fully with the subject of nasal respiration. He looks upon the vibrissæ of the nose as so many policemen stationed in the nostril to arrest the progress of hurtful bacilli. When travelling amongst the tribes of Red Indians in North America Mr. Catlin was struck with the healthiness of the children, and ascertained at length that it was mainly due to the Indian mothers insisting upon their offspring keeping their mouths shut, more particularly whilst sleeping, and so breathing exclusively through the nose. There is a Scriptural authority for the same in Genesis ii. 7.

I am, Sir, yours faithfully,

I. D. CHEPMELL, M.D. St. And.

Worthing, Jan. 19th, 1914.

THE RESPONSIBILITY OF THE MEDICAL PROFESSION AS REGARDS ANTI-TYPHOID INOCULATION.

To the Editor of THE LANCET.

SIR,—I am greatly interested in the remarks of Major C. Maddock, I.M.S., in the correspondence columns of THE LANCET of Jan. 10th about the indifference of the medical profession as regards antityphoid inoculation. We have made it a practice in the Church Missionary Society since 1908 of inoculating all our new missionaries going to various parts of the tropics where typhoid fever may be encountered. Those returning to the mission field after their furlough are also inoculated or reinoculated. It is not compulsory, but the advantages of it are placed before each individual, and I have found one of my greatest points has been to use the statistics issued by the Royal Army Medical College. I may safely say that at least 95 per cent. see the value of this protection and are consequently inoculated before they quit these islands to face the dangers of a tropical climate. I consider it of very special value to those who are going out for the first time, as statistics seem to show that the newcomer is more liable to contract typhoid fever than those acclimatised, but, as a fact, neither the newcomer nor the veteran should be considered exempt.

I have also experienced, with Major Maddock, the fact that our professional brethren at home do not encourage those who appeal to them for an opinion as to the value of this inoculation. Consequently many have had to come to London from the country in order to be inoculated.

I am, Sir, yours faithfully,

LEOPOLD G. HILL, M.D. Durh.,
Physician to the Church Missionary Society.

London, E.C., Jan. 19th, 1914.

A NATIONAL MEDICAL SERVICE.

To the Editor of THE LANCET.

SIR,—In view of the widespread publicity given by the lay press to Sir John Collie's suggestion of a State Medical Service, which is being held to be necessary by very many who are conversant with the absolute inefficiency and breakdown of the panel system, you may be able to publish the following suggestions for a Royal Health Medical Service, which I desired to make in the medical press some time ago :—

Suggestions for a Royal Health Medical Service.

1. That His Majesty the King should be graciously pleased, on the advice of his Ministers, to institute a Royal Health Medical Service on a similar basis to that of the Royal Navy and Royal Army Medical Services; this would not only be a great honour to the profession, but would also be of the greatest material service to the members who are now struggling in acute competition.

2. That the service should be directly controlled and administered by a Secretary of State responsible to Parliament; with this the objection, so strongly held, to the control of Friendly Societies, or of bodies dominated by them, would be obviated.

3. That the medical officers appointed should be granted relative rank with the officers of the other Royal services, with titular distinction as a reward for exceptional or long service and the use of the letters R.H.M.S. after their names. Such a service would have no difficulty in attracting highly qualified and experienced physicians and surgeons as specialists and consultants, and would raise the standing of medical men all over the country.

4. A thoroughly efficient and full medical service could be given to workmen and their dependents and to all others who are not in a position to pay for medical advice.

5. The service should include within its ranks all medical men engaged in the various civilian medical services, physicians and surgeons of hospitals, medical officers of health, sanatorium medical officers, medical referees under the Workmen's Compensation and National Insurance Acts, and, when the promised reform has arrived, the present infirmary and Poor-law medical officers.

6. It is admitted that the reform of the Poor-law cannot be long delayed, as both political parties are anxious to take the stigma of pauperism from the poor who may be in receipt of medical benefit, and whatever may be the status of a patient the same skill and attention is required for the restoration of health or the relief of suffering. There seems to be no reason, therefore, why the poor should not be attended by a branch of the Royal Health Medical Service or by medical officers of the service generally employed.

7. If appointments as senior and junior medical officers were offered at salaries approximating to those usual in the Royal Navy and Army Medical Services there would be no lack of candidates, and later on selection by competitive examination would be necessary. In sparsely populated districts part-time medical officers might be appointed with retaining salary or visiting and attendance fees.

8. That properly furnished and fitted clinics should be provided in populous districts, so that the objections which have been raised to the supply of drugs and dressings by retail chemists on contract would be met, and the best drugs, antiseptic dressings, and appliances could be obtained at first hand at the lowest possible price, owing to the large quantity which would be required and which could be had at wholesale prices. Qualified dispensers, male and female, could be obtained in any number, at reasonable salaries.

9. The Insurance Commissioners would be relieved from the heavy duties necessitated by the supervision of the appointment of the present panel service and would be able more efficiently to control the Approved Societies and the payment of claims.

10. As probably the great majority of the present panel doctors would accept service under the State with adequate salaries and retiring pensions, the "free choice of a doctor" could be largely retained, subject to a strict limitation of the list of any individual medical officer, so that his patients could be efficiently and promptly attended without overwork.

I have abstained from attacking the present panel system, although the system is by many condemned as the worst form of contract service yet known, with its competition for patients, and the inefficiency of the medical attendance when large panels are held. Insurance offices are being very hardly hit, as it is in many cases impossible to procure for a workman proper attendance, the hospitals referring men to their panel doctors, and the panel doctors being without time properly to attend to dressings, massage, &c.

I am, Sir, yours faithfully,

ALBERT BENTHALL.

South Hampstead, N.W., Jan. 15th, 1914.

To the Editor of THE LANCET.

SIR,—After a careful consideration of the points raised by Sir John Collie in his recent lecture, "The Medical Man and the National Insurance Act," and his deductions therefrom, I cannot help thinking that if the case for a National Medical Service can be defended by no better arguments than are there put forward it is weak in the extreme. Doubtless he puts his fingers on certain defects in the Insurance Act and its present administration, but none of them are irremediable, and it is generally admitted that with suitable amendment its provisions might be made acceptable to nearly the whole profession. What may be unhesitatingly stated is that much as it is disliked now by certain sections of the profession none but an insignificant minority would exchange it for a State Medical Service. Some of Sir John Collie's statements are certainly open to criticism. Dealing with "Defects in Central Administration" he says:—

> It was clear to those who went into the question at the time, and it is now *admitted by all*, that the agitation of the British Medical Association was largely based on a misconception. Elementary as the mistake may be, *it is undoubtedly* the fact that many doctors had the belief that the payment was to be per patient and not per person.

I can only characterise this as a plain misstatement of fact. I was on the Council of the Association and a representative of my division throughout the whole of the agitation that preceded the passing of the Act, and as such met representatives from all parts of the country. Among those who had anything to do with framing the policy of the Association I do not think there was any one who entertained such a delusion. Yet Sir John Collie says, "The agitation of the British Medical Association was largely based on this elementary misconception!"

Dealing with "defects inherent in the panel system," he complains of the "non-selection of the doctors." "For the army and navy a searching examination must be passed, for the Poor-law service, the school doctors, and the Post Office service, appointments are advertised, and the best man who presents himself is selected." Here, again, Sir John Collie's statements are at variance with the fact. Ordinary Post Office appointments are rarely, if ever, advertised. Again, if the various appointments specified are advertised, does the best man who presents himself get the appointment? If this is Sir John Collie's experience it is not mine. I think a statement that it was the exception for the best man to get the appointment, and when he did it was for some other reason than his professional excellence, would be much nearer the truth. Again, under a National Medical Service, if only the best men are going to

be selected what becomes of the mediocrity of the profession? Are they to compete outside with the State doctors? The choice of an intelligent patient of his own doctor is at least as good as that made usually by a public board on his behalf. In either case a mistake can be made and often is, but it can be corrected much more readily in the former than the latter case.

In the picture Sir John Collie draws of a National Medical Service, it is easy to detect a glamour similar to that thrown on their pictures by confessed socialists when endeavouring to point out the advantages of the socialistic state. Sir John Collie says the changes he proposes will be to many practitioners "highly distasteful." I must reckon myself among that number, but not simply because the changes are "distasteful," but because in my opinion they are bad both for the public and the profession. If I believed in Socialism, that is in the State undertaking everything for everybody, and individual enterprise and independence being relegated more and more to the background, it might be otherwise. As it is, I regard honest competition with one's fellows, with all its drawbacks, as a more honourable position for a medical practitioner than to become a unit in any National Medical Service; and I am of opinion that medical science will be best promoted, and the welfare of the nation best maintained in the future, as in the past, by an independent profession of medicine. I am, Sir, yours faithfully,

Hackney-road, N.E., Jan. 18th, 1914. MAJOR GREENWOOD.

THE TREATMENT OF GRANULAR KIDNEY.

To the Editor of THE LANCET.

SIR,—I regret that owing to my not having been able to get the corrected proof of my letter on this subject[1] returned to the offices of THE LANCET in time for the press an error has crept in. Where the letter (in the second line from the top of the right hand column of page 210) states "in 24 hours the pulse was 94," it ought to read "in 48 hours," &c.—I am, Sir, yours faithfully,

A. GRAHAM-STEWART.

Cliftonville, Margate, Jan. 19th, 1914.

[1] THE LANCET, Jan. 17th, 1914, p. 209.

ROYAL ANTHROPOLOGICAL INSTITUTE. — The president and council of the institute will entertain Professor Baldwin Spencer, C.M.G., F.R.S., of Melbourne University, at a complimentary dinner at the Café Monico, London, W., on Jan. 27th, at 6.30 P.M.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly court of directors of this society was held on Jan. 14th, Dr. Rigden, senior vice-president present, being in the chair. Fifteen members of the court were present. Since the last court two of the vice-presidents of the society had died—Dr. Clement Godson and Mr. H. W. Kiallmark. One of the widows in receipt of grants had also died; she came on the funds in 1875, and received in grants the sum of £2300. Her husband had paid in subscriptions £37 16s. The sum of £1260 was voted to pay the usual half-yearly grants to the widows and orphans, and £392 10s. were voted for special grants to be paid out of the Brickwell Fund. The invested funds of the society now amount to £139,500. Membership of the society is open to any registered medical practitioner who at the time of his election is resident within a 20-mile radius of Charing Cross. The annual subscription is 2 guineas. Special terms for life membership. Further particulars and application forms for membership may be obtained by applying to the secretary at the office of the society, 11, Chandos-street, Cavendish-square, London, W.

THE NATIONAL INSURANCE ACT.

THE STATE MEDICAL SERVICE QUESTION.

IN delivering the first of a series of lectures arranged by the Faculty of Insurance, dealing with various aspects of National Insurance, Sir John Collie took as his subject "The Medical Profession and National Insurance," and after criticising severely what he indicated as the defects of medical service under the panel system, advocated strongly recourse to a National Medical Service as a remedy. Sir John Collie regarded as a mistake the admission to the panels of all proposing themselves, irrespective of character and qualifications. He spoke of men who had never established themselves in practices of any value as having now large numbers of insured patients, and contrasted with this system that which provided practitioners for the army and navy, and for appointments such as those offered by the Poor-law Service or the Post Office. He also called attention to the competition between medical men which was encouraged by the system, and referred to it as producing touting and other unprofessional practices. He was of the opinion that excessively large panel lists were producing scamped and inferior work, giving as an instance the experience of a panel practitioner who had told him that he had to see 50 or 60 patients every evening. He considered that a State Medical Service was the best remedy for this state of affairs and the best means for bringing the advantages of medical science within the reach of the insured. He considered that such a service would be more economical than the present system, and that without interfering with private practice would offer opportunities to those in its lower ranks to rise to eminence, its members doing their best to keep themselves abreast of modern science. We referred in a leading article last week to one great argument against a State Medical Service—at any rate, in the present position of medical practice. When the combination of a choice of doctor by the insured with a regimented service is considered, the path advocated by Sir John Collie is seen to be difficult, while some of his criticisms on the working of the Act are being directly contradicted.

MEDICAL REFEREES AS UNDERSTOOD BY SOME APPROVED SOCIETIES.

A letter to the *Daily News* recently recommended the formation of "complaints committees" as a solution of "the difficulty as regards satisfactory attendance by panel doctors," and went on to call attention, surely somewhat inconsequently, to a practice for which panel doctors are in no way responsible. According to the writer "a large number of persons who have claimed sick pay on the certificate of their panel doctor are sent to another medical gentleman appointed by the Approved Society. The panel doctor says the person is unfit for work. The referee examines the patient and reports to the society that the person is not unfit." The writer, after illustrating the hardship which is thus inflicted upon the sick person by reference to an instance which occurred within his knowledge, continues: "This is happening all over the country. Whose word are we to take—that of the panel doctor who administers to the patient, or the referee appointed by the society?" The point raised is a very important one. It was referred to in THE LANCET of Dec. 13th last, p. 1734, in connexion with a case which

occurred at Birkenhead. At Walsall the wholesale summoning of the sick members of a society to present themselves for examination by the medical officer of the society has been inquired into by the Insurance Committee, which passed unanimously the following resolution:—

That this meeting registers a strong protest against the treatment meted out to the sick members of the Royal Liver Society on Thursday, Nov. 13th, when the whole of the sick members of that society were directed to attend in the space of two hours for the purpose of examination by the medical officer of the society, and that the whole facts, as brought before this meeting, be laid before the Insurance Commissioners in London.

It will be seen from the above that in some Approved Societies, at any rate, the zeal of their officials to conserve their funds is liable to inflict great hardships upon their sick members, and that the principles which should govern the appointment and calling in of a medical referee are entirely misunderstood. The matter is one which concerns all medical men engaged upon panel practice, and in its ethical aspects should be carefully considered by such practitioners as may be invited to act as referees by Approved Societies.

THE NATIONAL INSURANCE ACT AND MIDWIVES.

A legal correspondent writes: "A letter in THE LANCET of Jan. 17th, p. 213, suggested the application of part of the unallotted fund to paying medical men called in upon the advice of a midwife under the provisions of the Midwives Act. This hardly seems possible in view of the fact that the National Insurance Act, 1913, repeals the portion of Section 18 of the original Act, which permitted the fee of the medical practitioner in the circumstances indicated to be recoverable as part of the maternity benefit."

A CENTRAL PANEL COUNCIL FOR LONDON.

We have been requested by Dr. J. Hanna McBurney, 530, Fulham Palace-road, London, S.W., and Mr. Robert J. Farman, 130, Upper Kennington-lane, London, S.E., as temporary honorary secretaries of a movement for the formation of a Central Panel Council for London, to publish the following:—

With the view to advancing the organisation of the Central Panel Council another stage a conference was held on Jan. 17th.

It will be remembered that a meeting was held on Dec. 18th, 1913, at Caxton Hall, when the following resolutions were adopted:—

1. That a central body be formed to link up local panel associations.

2. That this body be composed of two delegates from each local panel association, preferably the chairman and honorary secretary.

3. That the name of this body be the "Central Panel Council (London)."

4. That this council be financed by subscriptions from each local panel association.

The conference referred to above met for the purpose of adopting definite "objects," which, if accepted by a meeting of the council to be held at an early date, will rule the policy of this organisation.

These objects are as follows:—

1. To coördinate the activities of all existing local panel associations and organisations and to encourage and assist in the formation of similar organisations where such do not at present exist.

2. To assist in carrying out such policies as may be discussed and agreed upon in the local panel associations and upon which there appears to be general agreement.

3. To afford information and advice to the executive officers of the various panel organisations.

4. To prepare and present representations when necessary to the Commissioners, Insurance Committees, and other public bodies.

5. To maintain and develop in all directions an efficient medical service under the panel system.

It will be seen that the constituent parts of the Central Panel Council will be the local panel organisations, whilst the individual practitioner will remain constituent to his local panel association.

Although the main efforts of the Central Panel Council must at first be directed towards the consolidation of the panel profession in the metropolis, it is earnestly desired that provincial panel associations will take an early opportunity of placing themselves in communication with the honorary secretaries of the council, with a view to the extension of its operations and the coördination of panel policy in all parts of the United Kingdom.

Individual practitioners are urged to at once join the local panel association in their area, and, where no such bodies exist, to form themselves into associations without delay.

With the object of assisting existing associations, honorary secretaries are invited to send their names and addresses to the honorary secretaries of the council, so that a directory may be formed, and this information given to practitioners desirous of joining these bodies.

We are informed further that a meeting of the Central Panel Council for London will be held early in February. Chairmen and honorary secretaries of local panel associations are requested to communicate at once with either Dr. McBurney or Mr. Farman, so that invitations may be issued as early as possible.

THE NATIONAL INSURANCE ACT IN SUFFOLK.

In a recent article dealing with the past year's work under the National Insurance Act, the *East Anglian Daily Times* expressed great satisfaction at the success which has been achieved in the district which it represents. In particular it dwelt upon the relief afforded to women workers and upon the advantages of sanatorium benefit, together with the appreciation of what has been done for them expressed by the insured persons of both sexes who have received medical and sickness benefit. It may be noted that although the article admits that the same experience has not been universal among Approved Societies, it mentions the secretary of an Oddfellows lodge as having stated that so far from the Act having led to malingering in his experience, his lodge, a typical working man's lodge, had paid £90 less in sickness benefit during the past 12 months than they had paid for some years, in spite of the lodge containing 100 more members than before. It would be interesting to know in how many lodges sickness benefit has been less than the average or normal, and whether any cause accounting for this can be assigned.

NATIONAL LEAGUE FOR PHYSICAL EDUCATION AND IMPROVEMENT.—The Lord Chancellor took the chair at a dinner held on Jan. 19th at the Savoy Hotel, London, in aid of this league and of the Mansion House Council on Health and Housing. Lord Haldane proposed the prosperity of the cause which both organisations have at heart in an eloquent and discerning speech. Donations towards the objects of the league amounting to upwards of £1800 were acknowledged during the evening.

CENTENARIANS.—Miss Ann Hutchings died recently at Wellington Workhouse on the eve of her 103rd birthday. Her father was in his 100th year at the time of his death, and a brother died aged 103 years, and a sister aged 98 years. Mrs. Harriet Light, of Weston-super-Mare, who celebrated her 100th birthday on Sept. 13th last, died on Jan. 10th. Mrs. Cooper, of Weston-super-Mare, another centenarian, died on Jan. 7th in her 101st year. Mrs. Clarke, of Rushden, has recently died at the age of 101.

Medical News.

UNIVERSITY OF LONDON.—At the First Examination for Medical Degrees, held in December, 1913, the following candidates were successful:—

Arthur Lawrence Abel, University College; Cecil Hewitt Atkinson, Guy's Hospital; Abdul Rahman Hassan S. Azzam, St. Thomas's Hospital; *†George Arthur Emmanuel Barnes, University Tutorial College; Philip Sidney Bayley, Middlesex Hospital; Keith Carlyle Beatty, Denston College and London Hospital; Charles Courtney Bennett, Guy's College; Edward Jocelyn Bilcliffe, King's College; Alfred Octavius Bolton, St. Bartholomew's Hospital; John Walker Brash, Birkbeck College and St. Mary's Hospital; Israel Braun, South African College, Cape Town, and St. Bartholomew's Hospital; Margaret Hastings Bridge, London (Royal Free Hospital) School of Medicine for Women; Hayward Carpenter, King's College and Charing Cross Hospital; James Edwin Carpenter, London Hospital; Hartley Sidney Carter, private study; Bodh Raj Chandhri, King's College; Cecil Stedman Cloake, Birkbeck College; Hedley Chave Cox, Highgate School; Hari Das, University College; Owen Griffith Davies, St. Paul's School; Arthur Henry Douthwaite, University of Bristol and University College; Douglas Alexander Dyer, King's College; Henry Ernest Karslake Eccles, Epsom College and St. Bartholomew's Hospital; George Evelyn Edwards, University College; Robert Walter Laurence Edginton, University of Birmingham; William Eldinow, London Hospital; Stewart Farquharson, Tonbridge School; Valentine Francis Farr, St. Paul's School; Walter Alan Flynn, Guy's Hospital; Beatrice Ford, Brighton Municipal Technical College; James Stewart Franklin, St. Thomas's Hospital; Thorsten Carl Wilhelm Geijer, King's College; Johan Coenraad Gie, Guy's Hospital and South African College, Cape Town; Lionel Charles Goument, Dulwich College and St. Bartholomew's Hospital; Dorothy Winifred Gowers, London (Royal Free Hospital) School of Medicine for Women; Algernon Sanders Green and Ronald Benjamin Green, University College; Lawrence Handy, St. Bartholomew's Hospital; Walter Anley Hawes and Charles Graham Haynes, Guy's Hospital; Cecil Edward Eede Herington, St. Bartholomew's Hospital; Cyril Patrick Hines, King's College; Noel Rowland Hutchinson Holmes, Portsmouth Municipal College; Oscar Hyam Hyman and Clifford Venning Isard, St. Thomas's Hospital; Douglass Charles James, St. Bartholomew's Hospital; Theodora Johnston, London (Royal Free Hospital) School of Medicine for Women; Myrddin Emrys Jones, University of Liverpool and St. Thomas's Hospital; George Francis Juckes, St. Bartholomew's Hospital; Nal Kamchorn, Guy's Hospital; Noel Edward Fiarnwell Kemm, University of Bristol; Margaret Hypatia Kingsford, University Tutorial College; Daulat Manghirmal Lalá, King's College and University Tutorial College; Douglas Arthur Campbell Layman, St. Thomas's Hospital; Gerald Esmond MacAlevey, University of Birmingham and St. Mary's Hospital; James Galway McCann, St. Thomas's Hospital; Kathleen McCrie McKeown, London (Royal Free Hospital) School of Medicine for Women; George Gliddon Michell, Plymouth Technical School and private study; †Frederick Currer Miller, Guy's Hospital; Annie Shortridge Mules, London (Royal Free Hospital) School of Medicine for Women and University College, Exeter; Edith Marjorie Newman, University College, Cardiff; Henry Wilfrid Lee Nichols, London Hospital; David Richard Owen, University College, Aberystwyth and private study; Sigrid Letitia Sharpe Pearson, Girton College; Benjamin Wynford Philipps, London Hospital; Ruth Wade Plimsoll, London (Royal Free Hospital) School of Medicine for Women; Montagu Cecil Polhill, University College; Jean Stephanie Pope, London (Royal Free Hospital) School of Medicine for Women; Alexander Rathouse, Guy's Hospital and Transvaal University College, Pretoria; Gordon Hussey Roberts, Whitgift Grammar School and University Tutorial College; John Saunders Lewis Roberts, Swansea Technical College and University College; ††John Francis Ryan, Merchant Taylors' School and St. Thomas's Hospital; *Samuel Sacks, London Hospital; Edward Jeffrey Samuel, University College, Cardiff; Tristram Albert Seton Samuel, Plymouth Technical School; Cedric Kennedy Scales, Epsom College; Hans Schaal, University College and Darmstadt Technical High School; Charlotte Annie Shields, London (Royal Free Hospital) School of Medicine for Women and Southend Technical School; Kildare Lawrence Singer, Birkbeck College; William Herbert Steavenson, Guy's Hospital; *Vernon Radcliffe Stewart, University Tutorial College and Victoria University of Manchester; Nal Synn, St. Bartholomew's Hospital; †Raymund Theron, London Hospital; Jeremias Auret van Heerden, St. Bartholomew's Hospital; Kathleen Suzanne Vine, London (Royal Free Hospital) School of Medicine for Women; and Ephraim Benjamin Woolf, London Hospital.

* Distinction in Inorganic Chemistry. † Distinction in Physics. ‡ Distinction in Biology.

UNIVERSITY OF LIVERPOOL.—The following candidates were successful in the examination held recently for the Diploma in Public Health:—

H. el Arculli, G. A. Crowley, R. Gawlin, H. J. Glover, J. R. Gwynne, H. H. MacWilliams, E. S. Miller, Phœbe M. Powell, J. F. Roberts, H. Seddon, T. W. Wadsworth.

FOREIGN UNIVERSITY INTELLIGENCE.—*Greifswald:* Dr. Wagener, of Berlin, has been appointed *docent* of Otology, in succession to Dr. W. Lange, who has gone to Göttingen. Dr. Oskar Gross, *privat-docent* of medicine, has been granted the title of Professor. Dr. Paul Morawitz, extraordinary professor in the University of Freiburg, has been appointed Professor of Medicine.—*Halle:* Dr. Theodor Heynemann, senior physician to the University Gynæcological Clinic, has been granted the title of Professor. Dr. Karl Justi has been recognised as *privat-docent* of Pathological Anatomy, General Pathology, and Tropical Diseases.—*Heidelberg:* Dr. Karl Jaspers has been recognised as *privat-docent* of Psychiatry.—*Innsbruck:* Dr. S. von Schumacher, extraordinary professor in the Veterinary School in Vienna, has been appointed Extraordinary Professor of Embryology and Histology. Dr. A. Windaus, extraordinary professor in Freiburg, has been appointed to the chair of Medical Chemistry, in succession to Dr. Pregl.—*Kiel:* Dr. Heinrich Schade, *privat-docent* of medicine, has been granted the title of Professor. Dr. F. Stern has been recognised as *privat-docent* of Psychiatry and Neurology, and Dr. O. Aichel, of Halle, as *privat-docent* of Anatomy and Anthropology, and has been appointed a Prosector in the Anatomical Institute, in succession to Dr. K. von Korff.—*Königsberg:* Dr. Theodor Cohn, *privat-docent* of Urology, and Dr. Hermann Streit, *privat-docent* of Otology, have been granted the title of Professor.—*Lyons:* Dr. J. Lépine has been appointed Clinical Professor of Mental and Nervous Diseases.—*Marburg:* Dr. Jakob Hürter and Dr. Ludwig Kirchheim, *privat-docenten* of Medicine, have been granted the title of Professor.—*Naples:* Dr. Adolfo Ferrata, of Parma, has been recognised as *privat-docent* of Histology and Medical Chemistry.—*Rostock:* Dr. O. Bumke, extraordinary professor in Freiburg, has been appointed to the chair of Psychiatry, in succession to the late Dr. Schuchardt. Dr. Brüning, extraordinary professor of children's diseases, has been recognised as a member of the Medical Professorial Senate.—*Sienna:* Dr. Bruno Brunacci has been recognised as *privat-docent* of Physiology.—*St. Louis University School of Medicine:* Dr. Downey L. Harris has been appointed to the chair of Hygiene.—*Strasburg:* Dr. G. Gruber has been recognised as *privat-docent* of Pathological Anatomy.—*Stuttgart:* Dr. Tafel, who has travelled in Thibet and published valuable researches and observations, has been granted the title of Professor.

SOCIETY OF MEDICAL OFFICERS OF HEALTH: SCHOOL MEDICAL SERVICE GROUP.—At the third meeting of this group, held in London under the chairmanship of Dr. R. Hughes, it was resolved that the council of the parent society should be asked to take steps to include whole-time school and assistant school medical officers and medical officers whose duties include school work in the provisions of the Bill securing superannuation and security of tenure. The method of organising sub-groups of the service was discussed, but consideration of the question of approaching the Board of Education and of the relation of the school and public health services was postponed for the present. The next meeting of the group was provisionally fixed for the third week in March at the office of the parent society, 1, Upper Montague-street, Russell-square, London, W.C.—A meeting of the Midland branch group of the School Medical Service Group will be held on Saturday, Jan. 31st, at 3 P.M., at the Medical Institute, Edmund-street, Birmingham, when matters of considerable importance to the service will be discussed. Those unable to attend but desirous of joining the Midland branch group are invited to write to Dr. A. Hamilton Wood, 38, George-road, Edgbaston, Birmingham.

MEDICAL SICKNESS AND ACCIDENT SOCIETY.—The usual monthly meeting of the executive committee was held at 429, Strand, W.C., on Jan. 16th, Dr. F. J. Allan being in the chair. The accounts presented showed a decrease in the number and amount of sickness claims during the month of December. The new proposals received were above those for the same month in the preceding year, and on the whole year the numbers are about the same. The annual statement of accounts was presented and discussed, and showed a satisfactory improvement in the sickness branch of the society. At this meeting special attention is paid to those claimants who are certified as being permanently incapacitated. This list is a long one, and the amount paid away in 1913 to these cases was over £5000. If ever illustration was required of the necessity for such a society as this, and the comfort and boon it is to those who are unfortunately for ever laid aside from active duties, then these cases serve a striking example. Many of them frankly admit that there is nothing between them, their families, and the workhouse, except the sickness pay

they are receiving from the society. The absence of worrying restrictions to all claimants is much appreciated, and this factor, combined with the regular weekly cheque, has much to do with the growing popularity of the society amongst the medical and dental professions. A prospectus and all information may be obtained from the secretary, Mr. Bertram Sutton, 33, Chancery-lane, London, W.C.

UNIVERSITY OF CAMBRIDGE: EXAMINATIONS FOR THE DIPLOMA IN PSYCHOLOGICAL MEDICINE.—The Managing Committee give notice that Part I. of the examination for the Diploma in Psychological Medicine will begin on Tuesday, June 2nd, and Part II. on Tuesday, March 31st. The examination for Part I. will be held in Cambridge; that for Part II. will be held in London.

PRESENTATION TO Dr. L. A. PARRY.—At a meeting of the Brighton Division of the British Medical Association held on Jan. 16th, Dr. L. A. Parry, the local honorary secretary of the recent annual general meeting of the Association, was presented by the members of the division with a handsome case of cutlery in recognition of his valuable services. The presentation was made by Dr. W. Ainslie Hollis, the President of the Association, who paid a high tribute to the work done by Dr. Parry in organising the arrangements for the meeting. Dr. Parry, who was very warmly received, returned thanks in eloquent terms.

PROPOSED GALTON CELEBRATION.—It is announced by the council of the Eugenics Education Society in the *Eugenics Review* that they have decided to hold each year on Feb. 16th—the anniversary of Sir Francis Galton's birth—a commemorative Galton lecture and dinner, and that the first lecture and dinner will take place on Monday, Feb. 16th next, at the Hotel Cecil, London. Sir Francis Darwin, F.R.S., will deliver the lecture. Further information will be given by the honorary secretary, Galton Celebration Committee, Eugenics Education Society, Kingsway House, Kingsway, W.C.

LITERARY INTELLIGENCE.—Messrs. J. and A. Churchill announce for publication Volume VIII. of the new edition of Allen's "Commercial Organic Analysis." This volume has been rewritten under the editorship of Mr. W. A. Davis and Mr. S. S. Sadtler. The subjects and authors are as follows: Enzymes, Proteins of Plants, by E. Frankland Armstrong; the Proteins and Albuminoid Substances, Digestion Products of the Proteins, by S. B. Schryver; Proteins of Milk, by L. L. Van Slyke; Milk, by H. Leffmann; Milk Products, by C. Revis and E. R. Bolton; Meat and Meat Products, by W. D. Richardson; Hæmoglobin and its Derivatives, by J. A. Gardner and G. A. Buckmaster; Albuminoids or Scleroproteins, by J. Alexander; Fibroids, by W. P. Dreaper.

CENTRAL MIDWIVES BOARD.—A meeting of the Central Midwives Board was held at Caxton House, Westminster, on Jan. 15th, Sir Francis H. Champneys being in the chair. A letter was considered from the Registrar-General transmitting a copy of a letter from the Superintendent Registrar for the Wolverhampton district with regard to the conduct of a certified midwife in issuing two certificates, one of death and one of stillbirth, in respect of the same child. The Board decided that the case be referred to the Penal Cases Committee. A letter was considered from the secretary of the Bombay Presidency Nursing Association asking the Board to recognise the certificate of the association as a qualification for the entry of a name on the midwives roll, or in the alternative to establish a branch examination of the Board in Bombay. The Board decided that the secretary of the Bombay Presidency Nursing Association be informed that the Board regrets that it is unable to entertain either application. A letter was considered from the county medical officer for Somerset calling the attention of the Board to the difficulties which may arise in connexion with the notification by a midwife of a stillbirth which has occurred before her arrival as provided by Rule E. 22 (c). The Board decided that the county medical officer for Somerset be thanked for his letter, and that he be informed that the matter has been noted for consideration on the next revision of the rules. A letter was considered from the resident medical officer of the Rochdale Union Infirmary with reference to the difficulty experienced by his pupils with regard to obtaining outside cases in connexion with their training. The Board directed that the resident medical officer of the Rochdale Union Infirmary be informed that the Board regrets that, not being familiar with the local circumstances of the case, it is unable to advise on the matter referred to them.

THE HUNTERIAN SOCIETY.—The next meeting of the Hunterian Society will be held at St. Bartholomew's Hospital in the library at 9 P.M. on Jan. 28th, and will be a clinical and pathological evening. All members of the medical profession are invited to attend.

LIVERPOOL MEDICAL INSTITUTION.—At the annual meeting held on Jan. 15th the following list of office bearers and members of council was adopted:—President: Edward William Hope. Vice-Presidents: Thomas Bushby, W. B. Warrington, R. J. M. Buchanan, and Alexander Stookes. Treasurer: R. J. Hamilton. General Secretary: Frank Hugh Barendt. Secretary of Ordinary Meetings: John Hay. Secretary of Pathological Meetings: D. Moore Alexander. Librarian: Nathan Raw. Editor of the Journal: R. W. MacKenna. Council: W. B. Bennett, R. E. Harcourt, A. W. Riddell, J. A. Howard, M. T. Stack, Robert Jones, J. Hayward Willett, A. C. Ransome, James Huskie, V. Chastel De Boinville, William McAfee, and E. Malcolm Stockdale.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

GREENE, ARTHUR, M.D., F.R.C.S., has been appointed full Surgeon to the Norfolk and Norwich Eye Infirmary.

HEWAT, A. MIDDLETON, M.D. Edin., has been appointed Tuberculosis Officer and Assistant Medical Officer of Health to the Borough of Preston.

HODGSON, JOHN FREDERICK, M.D., Ch.B. Vict., D.P.H., has been appointed Honorary Medical Officer to the Royal Halifax Infirmary.

MENCE, WILLIAM CHARLES, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health of Chard, Somerset.

NANKIVELL, A. T., M.D. Lond. (State Med.), D.P.H. Camb., has been appointed Medical Officer of Health and School Medical Officer to the Borough of Poole.

PICKLES, C. C., M.R.C.S. Eng., L.R.C.P. Lond., D.P.H. Leeds, has been appointed Medical Officer to the Gateforth Sanatorium, Leeds Tuberculosis Association.

ROBSON, WILLIAM MORTON, M.D. Lond., has been appointed one of the Medical Referees under the Workmen's Compensation Act, 1906, for County Court Circuit No. 36.

STARK, J., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Kirkliston District of the county of Linlithgow.

TAYLOR, A. L., M.B., B Sc. Edin., M.R.C.P. Edin., has been appointed Senior Assistant Medical Officer at the Govan District Asylum.

TEMPLETON, WILLIAM, M.B., Ch.B. Glasg., D.P.H. Camb., has been appointed Assistant School Medical Officer to the West Sussex and Chichester Joint Education Committee.

THOMPSON, CHARLES J., B.Sc. Birm., L.M.S.S.A. Lond., has been appointed Clinical Assistant to the Royal Orthopædic and Spinal Hospital, Birmingham.

WALKER, HAROLD, F.R.C.S. Eng., has been appointed one of the Medical Referees under the Workmen's Compensation Act, 1906, for County Court Circuit No. 15.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ASHTON-UNDER-LYNE DISTRICT INFIRMARY AND CHILDREN'S HOSPITAL.—Assistant House Surgeon. Salary £100 per annum, with board, residence, and laundry.

BANBURY, HORTON INFIRMARY.—House Surgeon. Salary £100 per annum, with board and residence.

BARROW-IN-FURNESS, COUNTY BOROUGH OF.—Assistant Medical Officer of Health and Assistant School Medical Officer. Salary £250 per annum.

BIRKENHEAD BOROUGH HOSPITAL.—Senior House Surgeon and Junior House Surgeon. Salary £120 and £100 per annum respectively, with board and laundry.

BIRKENHEAD UNION.—Senior Resident Assistant Medical Officer. Salary £150 per annum, with board, apartments, &c.

BIRMINGHAM AND MIDLAND EYE HOSPITAL, Church-street.—Pathologist. Salary £50 per annum.

BLACKPOOL, VICTORIA HOSPITAL.—House Surgeon.

BOURNEMOUTH, ROYAL NATIONAL SANATORIUM FOR CONSUMPTION AND DISEASES OF THE CHEST.—Visiting Physician.

BRADFORD CITY HOSPITAL, Leeds-road.—Assistant Resident Medical Officer. Salary £150 per annum, with board and residence.

BRADFORD ROYAL INFIRMARY.—Resident Surgical Officer, unmarried. Salary £150 per annum, with board and residence. Also House Surgeon, unmarried. Salary £100 per annum, with board, residence, and washing.

BURNLEY, VICTORIA HOSPITAL.—Second House Surgeon for six months. Salary at rate of £80 per annum, with residence, board, and washing.

CARDIFF, KING EDWARD VII.'s HOSPITAL.—House Physician for six months. Salary at rate of £80 per annum, with board, residence, and laundry.

CARMARTHEN, JOINT COUNTIES ASYLUM.—Second Assistant Medical Officer. Salary £200 per annum, with board, lodging, washing, &c.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—House Surgeon, unmarried. Salary £80 per annum. Also Surgeon to Out-patients.

CHESTER, COUNTY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £200 per annum, with board, lodging, and washing.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Salary at rate of £75 per annum, with board and washing. Also Honorary Radiographer. Also Physician to Out-patients.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Physician. Salary £100 per annum, with board, residence, and washing.

COVENTRY EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £300 per annum. Also School Dentist. Salary £300 per annum.

DERBY COUNTY ASYLUM, Mickleover, Derby.—Junior Assistant Medical Officer. Salary £200 per annum, with board, lodging, and washing.

DORCHESTER, COUNTY ASYLUM.—Third Assistant Medical Officer. Salary £250 per annum.

DORCHESTER, DORSET COUNTY HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with residence, board, and laundry.

DUNDEE ROYAL INFIRMARY.—Resident Medical Officers.

DURHAM COUNTY COUNCIL.—Assistant Tuberculosis Medical Officer. Salary £300 per annum.

DURHAM COUNTY ASYLUM.—Third and Fourth Assistant Medical Officers, unmarried. Salary £200 per annum, with board, lodging, and washing.

EAST SUFFOLK, ADMINISTRATIVE COUNTY OF.—Assistant to County Medical Officer of Health. Salary £300 per annum.

FRENCH HOSPITAL AND DISPENSARY, 172, Shaftesbury-avenue, W.C.—Second Resident Medical Officer, unmarried. Salary £80 per annum, with board and laundry.

GLASGOW, GARTLOCH MENTAL HOSPITAL.—Medical Officer. Salary £200 per annum, with board, lodging, and laundry.

GLASGOW, SCOTTISH WESTERN ASYLUMS' RESEARCH INSTITUTE.—Pathologist. Salary £400 per annum.

GLOUCESTER, GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Surgeon.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.—Assistant Casualty Officer for Out-patient Department. Salary at rate of £60 per annum, with board, residence, and laundry.

KENSINGTON DISPENSARY AND CHILDREN'S HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with board, residence, and laundry.

LEEDS GENERAL INFIRMARY.—Resident Aural Officer and Resident Obstetric Officer. Salary £100 and £50 per annum respectively, with board, residence, and laundry.

LEEDS TOWNSHIP INDOOR INSTITUTIONS, Beckett-street, Leeds.—Assistant Medical Officer, unmarried. Salary £140 per annum, with board, washing, apartments, and attendance.

LIVERPOOL, LEASOWE SANATORIUM HOSPITAL FOR SURGICAL TUBERCULOSIS IN CHILDREN.—Resident Medical Officer, unmarried. Salary £250 per annum, with board and residence.

LIVERPOOL, ROYAL SOUTHERN HOSPITAL.—Resident Pathologist and Bacteriologist. Salary £150 per annum, with board and residence.

MAIDSTONE, KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer, unmarried. Salary £200 per annum, with quarters, attendance, washing, &c.

METROPOLITAN EAR, NOSE, AND THROAT HOSPITAL, Fitzroy-square, W.—Clinical Assistant.

MIDDLESEX HOSPITAL, W.—Ophthalmic Surgeon.

NEWCASTLE-UPON-TYNE CITY ASYLUM, Gosforth.—Junior Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, board, and laundry.

NEW HOSPITAL FOR WOMEN, 144, Euston-road, N.W.—Female Senior Clinical Assistant in Ophthalmic Department.

NEW ZEALAND GOVERNMENT MENTAL HOSPITALS.—Two Junior Assistant Medical Officers, unmarried. Salary £260 per annum, all found.

NEWPORT (MON.), ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary at rate of £100 per annum, with board, residence, and laundry.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £180 per annum, with apartments, &c.

NOTTINGHAM, RANSOM SANATORIUM, Sherwood Forest, Mansfield.—Resident Medical Officer. Salary £100 per annum, with board, residence, and laundry.

PADDINGTON INFIRMARY.—Assistant Medical Superintendent of Infirmary and Medical Officer of Workhouse. Salary at rate of £170 per annum, with board, lodging, and washing.

PERTH DISTRICT ASYLUM.—Assistant Physician. Salary £150 per annum and all found.

PRESCOT UNION WORKHOUSE AND INFIRMARY, near Prescot, Liverpool.—Assistant Medical Officer. Salary £240 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—House Surgeon for six months. Salary £80 per annum, with board, residence, and washing.

READING, ROYAL BERKSHIRE HOSPITAL.—Second House Surgeon. Salary at rate of £80 per annum, with lodging, board, and laundry.

RYDE, ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident House Surgeon, unmarried. Salary £125 per annum.

ST. GEORGE'S HOSPITAL, Hyde Park Corner, S.W.—Medical Superintendent. Salary £500 per annum, with board and residence.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Senior Resident Medical Officer. Salary at rate of £90 per annum, with board, residence, and laundry.

SALISBURY GENERAL INFIRMARY.—House Surgeon and Assistant House Surgeon, both unmarried. Salary £100 and £50 per annum respectively, with apartments, board, and lodging.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior House Surgeon. Salary £100 per annum, with board, residence, &c. Also Junior House Surgeon. Salary £80 per annum, with board, residence, &c.

SHEFFIELD, CHILDREN'S HOSPITAL, Western Bank.—House Surgeon (female). Salary £100 per annum, with board and residence.

SHREWSBURY, COUNTY ASYLUM.—Senior Assistant Medical Officer and Second Assistant Medical Officer, unmarried. Salary £250 and £200 per annum respectively, with board, apartments, laundry, attendance, &c.

SOUTHEND-ON-SEA, BOROUGH OF.—Tuberculosis Officer. Salary at rate of £500 per annum.

SOUTHWARK, METROPOLITAN BOROUGH OF.—Tuberculosis Officer. Salary £500 per annum.

SOUTHWARK UNION INFIRMARY, East Dulwich-grove, S.E.—Third Assistant Medical Officer. Salary £120 per annum, with board, lodging, and washing.

STRAITS SETTLEMENTS GOVERNMENT.—Three Medical Officers. Salary £300 per annum.

SUNDERLAND ROYAL INFIRMARY.—House Physician. Salary £120 per annum, with board, residence, and laundry.

SWANSEA GENERAL AND EYE HOSPITAL.—House Physician. Salary £125 per annum, with board, apartments, and laundry.

TUNBRIDGE WELLS GENERAL HOSPITAL.—House Physician, unmarried. Salary £100 per annum, with board, residence, &c.

WALTHAMSTOW URBAN DISTRICT COUNCIL ISOLATION HOSPITAL, Chingford.—Resident Medical Officer. Salary £150 per annum, with rooms and board.

WARWICK COUNTY ASYLUM, Hatton, near Warwick.—Second Assistant Medical Officer, unmarried. Salary £200 per annum, with board, lodging, and laundry.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House Surgeon and Anæsthetist, unmarried. Salary £75 per annum, with board, residence, and washing.

WEST HAM AND EASTERN GENERAL HOSPITAL.—Junior House Surgeon. Salary at rate of £75 per annum.

WEST HAM, COUNTY BOROUGH OF, TEMPORARY SANATORIUM, Dagenham, Essex.—Resident Medical Officer, unmarried. Salary at rate of £300 per annum, with apartments, board, and washing.

WESTMINSTER HOSPITAL.—Assistant House Surgeon for three months, non-resident. Board provided.

WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Senior House Surgeon. Salary £120 per annum, with board, apartments, and washing.

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL.—House Physician and House Surgeon. Salary £80 per annum in each case.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Acts at Ballymore Eustace, in the county of Kildare; at Fleetwood, in the county of Lancs; at Keyingham, in the county of Yorks; at Trowbridge, in the county of Wilts; and at Uttoxeter, in the county of Staffs.

*** The summary of vacant appointments, published weekly in this column, is, equally with other articles, the literary copyright of the Proprietors of THE LANCET.

Births, Marriages, and Deaths.

BIRTHS.

BOURNE.—On Jan. 17th, at Rutland Park Mansions, Cricklewood, N.W., the wife of A. W. Bourne, F.R.C.S., of a daughter.

CLARKE.—On Jan. 7th, at Bolingbroke-grove, Wandsworth Common, the wife of T. Alexander Clarke, M.R.C.S., M.R.C.P., of a daughter.

DEWEY.—On Jan. 17th, the wife of E. W. Dewey, M.R.C.S., L.R.C.P., Kingswear, London-road, Portsmouth, of a daughter.

TURNER.—On Jan. 15th, at Westbury, Purley, Surrey, the wife of S. Duke Turner, M.D., of a daughter.

MARRIAGES.

BAILLIE—GARGETT.—On Jan. 1st, at St. Mary's Church, Oak Bay, Victoria, B.C., David Main Baillie, M.D., to Blanche Winnifred, youngest daughter of Mr. R. B. Gargett.

DEATHS.

BOWIE.—On Jan. 14th, at Park Hall, Bixter, Shetland, Thomas Havelock Ewart Bowie, aged 4 years 2 months, eldest son of James Cameron Bowie, J.P., M.B., C.M.

GARRETT.—On Jan. 17th, at the Nursing Home, Huddersfield, from pneumonia, after a short illness, Gerald William Blackmann Garrett, B.A., M.R.C.S., in his 29th year.

LONGTON.—On Jan. 10th, suddenly, aged 43, George Harold Longton, M.R.C.S., L.R.C.P., of 77, New Cavendish-street, W., youngest son of the late Edward John Longton, M.D., J.P., of The Priory, Southport, and Brown Howe, Ulverston.

POLITACHI.—On Jan. 11th, at Glen Lodge, Kersal, Manchester, John Politachi, M.B., Ch.B. Edin.

REEVES.—On Jan. 16th, Henry Albert Reeves, M.R.C.S.

WISE.—On Jan. 8th, at Lindisfarne, Trowbridge, Wiltshire, Nicholas Vincent Wise, L.R.C.S.I., L.K. and Q.C.I., L.M.I., aged 69.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

AMBIGUOUS TITLES.

"What's in a name? That, which we call a rose,
By any other name would smell as sweet."

But when Juliet said this she was referring to the case in which the thing remained constant and the name differed. When the name remained constant and the thing differed, what would she have said? For instance, a book with the title, "What every Young Woman should Know before Marriage," but in reality a mild work on cookery, was the cause of some little trouble in Germany a few weeks ago, and an association of booksellers who complained to the court of the over-ingenuity of a *confrère* found that the judge could not help them to stop the sale, which had been large, as the book was not improper, but, on the contrary, a very proper one to be in the hands of every young woman. Moreover, counsel pointed out that a large number of young women had bought the book, but none of them had complained. The art of ambiguous catchy titles seems to have been quite well known to our ancestors. It is said that Louis Antoine Caraccioli (1721—1803) published a book with the ambiguous title of "La Jouissance de Soi-Même," and the sale of the book was continual with the libertines, who, however, found nothing but very tedious essays on religion and morality. In the sixth edition the author greatly exulted in his successful contrivance by which means he had punished the vicious curiosities of certain persons, and perhaps had persuaded some, whom otherwise his book might never have reached. On the other hand, as an example of an alluring bait failing to fetch fish, it is recorded that W. J. Mickle, the poet and translator of "The Lusiad" of Camoens, could never find purchasers for his poem "The Concubine," written in imitation of Spenser (1767), until it afterwards (1778) assumed the more delicate title of "Sir Martyn."

THE PREVENTION OF VENEREAL DISEASE.

To the Editor of THE LANCET.

SIR,—Some excellent leaflets have been prepared and distributed in Germany by the "Deutsche Gesellschaft zur Bekämpfung der Geschlechtskrankheiten." I shall be glad to know if you can inform me of any similar instructions issued in this or other English-speaking country.

I am, Sir, yours faithfully,
SIDNEY DAVIES,
Woolwich, Jan. 17th, 1914. Medical Officer of Health.

*** A number of such pamphlets have been published during the past few years in the United States. The following have been suggested to us as appropriate: 1. "The Young Man's Problem," by Prince A. Morrow, 1912. 2. "Health and Hygiene of Sex," by Morrow, 1912. 3. "The Sexual Necessity," 1913, explaining possibility and value of continence. All issued by the American Society of Sanitary and Moral Prophylaxis, 105, West 40th Street, New York. Recently issued pamphlets on venereal diseases and public health are announced in our advertising pages this week, and appear to be exactly the kind of thing which Dr. Davies wishes to hear of.—ED. L.

AN IMPUDENT LETTER.

A LONDON physician has forwarded to us a letter lately received by him from a masseur, who apparently labours under the delusion that "dichotomy" is a recognised custom among medical men in this country, and that it can be extended to the relationship between practitioners and those who in a subordinate capacity carry out their instructions. The letter bears a London address, at which the writer announces that he has "reopened his practice" upon his return from a well-known British inland spa. He proceeds at once to business:—

> I should like to mention that I do not expect you to send me any Patients whithout some compensation, as generally the masseur benefits more from the Patient than the Dr. I think it is only fair the Dr. got a certain percentage or a fix sum for each Patient.
>
> If you think you would be able to send me any cases, I should be pleased to call and talk the matter over with you. Yours faithfully,

We suppress the masseur's name on this occasion, but we should add in so doing that it is very obviously of foreign origin.

THE COMPLIMENTARY DINNER TO DR. ADDISON.

Dr. H. H. Mills (21, St. Mary Abbot's-terrace, London, W.) writes that inadvertently the names of Mr. Walter Jessop, Dr. Leonard Hill, and Dr. Lauriston Shaw were omitted from the first list of the committee for this dinner. He further asks those wishing to attend the dinner to apply at once for tickets (price 7*s.* 6*d.*) as the accommodation is limited.

FRIEDRICHSHALL MINERAL WATER.

IN an analysis given in our issue of Jan. 3rd of Friedrichshall mineral water the figures refer to the amounts of salts present in 100 cubic centimetres of the water, and not in a litre as stated. The actual contents per litre are therefore just ten times the quantities of salts represented. The slip is our own; the decimal system is a scientific system, but so much depends upon the position of the "dots," as Lord Randolph Churchill called them with some emphasis.

BOVRIL PICTURES.

Messrs. Bovril, Limited, of Old-street, London, have forwarded us copies of the three bonus pictures of their current picture scheme, the largest being framed, and the other two unframed. The large picture, an artist's proof of an engraving after a painting by Mr. Fred Morgan, is entitled "Nothing to Fear," and depicts a mother to whom some children are turning in surprise and excitement at the sight of a huge bear. The gravure is $25\frac{3}{4} \times 19\frac{3}{4}$ in., the full size of the paper being $37\frac{1}{2} \times 32$ in. Of the smaller pictures one in entitled "Fireside Joys," by Mr. A. J. Elsley, and in this, as in the former, children are the outstanding feature. The size is $20\frac{3}{4} \times 16$ inches, and the full size of paper 29×23 in. The remaining picture, by A. de Breanski, jun., is called "In the Heart of Devon." This picture is slightly smaller, being 15×20 in., and the full size of paper $23 \times 28\frac{1}{2}$ in. These excellent reproductions are the work of Messrs. C. W. Faulkner, London.

H.K.—Accidents to London school children. The scale of fees adopted by the London County Council in respect of payments to medical men will be found in a letter from the Deputy Clerk of the Council published in THE LANCET of August 16th, 1913, p. 513.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—Prof. O. W. Richardson: The Origin of Thermal Ionization from Carbon.—Prof. W. H. Bragg: The X Ray Spectra given by Crystals of Sulphur and Quartz.—Prof. L. N. G. Filon: On the Temperature Variation of the Photo-elastic Effect in Strained Glass.—Mr. J. H. Shaxby and Dr. E. E. Roberts: Studies in Brownian Movement. Paper I.—On the Brownian Movement of the Spors of Bacteria (communicated by Prof. E. H. Griffiths).—Dr. R. Whiddington: The Tranmission of Cathode Rays through Matter (communicated by Sir J. J. Thomson).—Mr. E. Griffiths: The Variation with Temperature of the Specific Heat of Sodium in the Solid and the Liquid State; also a Determination of its Latent Heat of Fusion (communicated by Dr. E. H. Griffiths).—Dr. G. Green: On Radiation from a Gas (communicated by Prof. A. Gray).—Dr. T. E. Stanton and Mr. J. R. Pannell: Similarity of Motion in Relation to the Surface Friction of Fluids (communicated by Dr. R. T. Glazebrook).—Mr. A. E. Oxley: The Influence of Molecular Constitution and Temperature on Magnetic Susceptibility (communicated by Sir J. J. Thomson).—Mr. N. Eumorfopoulos: The Boiling-point of Sulphur on the Thermo-dynamic Scale (communicated by Prof. A. W. Porter).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MONDAY.
LECTURE BEFORE THE SOCIETY: at 5 P.M.
Surgeon Murray Levick: The Experiences of Captain Scott's Northern Party from a Medical Point of View.

SECTION OF ODONTOLOGY (Hon. Secretaries—Robert McKay, F. Coleman): at 8 P.M.
Discussion:
On Mr. S. P. Mummery's paper on "The Conservative Treatment of the Pulp."
Casual Communication:
Mr. Leonard Harwood: Case of Congenital Absence of Maxillary Teeth.

TUESDAY.
SECTION OF MEDICINE (Hon. Secretaries—H. Batty Shaw, John Fawcett): at 5.30 P.M.
Discussion:
On Vaccines from the Standpoint of the Physician (opened by Dr. T. J. Horder). Followed by Sir John McFadyean, Dr. Charlton Briscoe, Dr. Gillett (Oxford), Dr. Phineas Abraham.
The discussion will be continued on Tuesday, Feb. 3rd, at 5 P.M., when it will be re-opened by Dr. H. D. Rolleston.

SECTION OF PSYCHIATRY (Hon. Secretaries—R. H. Cole, Bernard Hart): at 8.30 P.M.

Dr. D. Orr and Dr. R. G. Rows: Further Observations on the Influence of Toxins on the Central Nervous System.

Dr. R. G. Rows: The Importance of Disturbance of the Personality in Mental Disorders.

WEDNESDAY.

SECTION OF THE HISTORY OF MEDICINE (Hon. Secretaries—Raymond Crawfurd, D'Arcy Power): at 5 P.M.

Dr. Henry Barnes: Roman Medicine and Roman Medical Inscriptions found in Britain (illustrated by the Epidiascope).

Sir Ernest Clarke: The Medical Education of Oliver Goldsmith.

Dr. Chalmers and Captain Archibald, R.A.M.C. (Khartoum): Two Early Eighteenth Century Treatises on Tropical Medicine.

Mr. C. J. F. Thompson will show Specimens from the Wellcome Historical Museum.

THURSDAY.

SECTION OF BALNEOLOGY AND CLIMATOLOGY (Hon. Secretaries—Charles W. Buckley, J. Campbell McClure): at 5.30 P.M.

Dr. S. D. Clippingdale: London as a Health Resort.

(At 7 P.M. the Members will dine together at the Welbeck Palace Hotel, Welbeck-street, W. The charge for the dinner is 4s. each, and Members may bring guests. Members who wish to dine are requested to send their names to Dr. J. Campbell McClure, 59, Harley-street, W.)

SECTION OF NEUROLOGY (Hon. Secretaries—T. Grainger Stewart, H. Campbell Thomson): at 8.30 P.M.

Dr. F. E. Batten: Progressive Cerebral Degeneration in an Infant, with Pathological Examination.

Dr. S. A. Kinnier Wilson: The Pathology of Pellagra.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8.30 P.M., Clinical Evening. Cases will be on view from 8 P.M.

HUNTERIAN SOCIETY, Library, St. Bartholomew's Hospital, E.C.

WEDNESDAY.—9 P.M., Clinical and Pathological Evening.

BRITISH OTO-LARYNGOLOGICAL SOCIETY, 11, Chandos-street, Cavendish-square, W.

THURSDAY.—4 P.M., Exhibition of Cases and Specimens.

HARVEIAN SOCIETY OF LONDON, at St. Mary's Hospital, Paddington, W.

THURSDAY.—8.15 P.M., Clinical Meeting. Cases will be shown by Members of the Honorary Staff and others.

PLYMOUTH MEDICAL SOCIETY. Athenæum Chambers, Athenæum-lane, Plymouth.

SATURDAY.—8.30 P.M., Paper:—Dr. H. H. Tooth: The Indications for Surgical Treatment of Intracranial Tumours.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. A. M. H. Gray: Clinique (Skin). 5.15 P.M., Lecture:—Dr. H. C. Miller: Psychotherapeutic Methods—Persuasion and Re-education.

TUESDAY.—4 P.M., Dr. J. Collier: Clinique (Medical). 5.15 P.M., Lecture:—Mr. J. M. G. Swainson: After-treatment in Surgical Cases.

WEDNESDAY.—4 P.M., Mr. G. B. M. White: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. T. N. Kelynack: Disputed Points regarding Tuberculosis.

THURSDAY.—4 P.M., Mr. J. Cantlie: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. H. C. Miller: Psychotherapeutic Methods—Suggestion.

FRIDAY.—4 P.M., Mr. A. McNab: Clinique (Eye). 5.15 P.M., Lecture:—Dr. W. Wingrave: Examination of Urine.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Harman: Ophthalmia Neonatorum.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Dr. Davis: Tonsillitis.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M., Mr. Souttar: Demonstration of Minor Operations. 12 noon, Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women. 5 P.M., Lecture:—Mr. Harman: Syphilitic Affection of the Anterior Part of the Eye.

THURSDAY.—9 A.M., Dr Bernstein: Bacterial Therapy Department. 10.30 A.M., Dr. Simson: Gynæcological Demonstration. 12.15 P.M., Lecture:—Dr. G. Stewart: Neurological Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Harman: Syphilitic Affection of the Posterior Part of the Eye.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Bernstein: Clinical Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Dr. Davis: Eustachian Obstruction.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 12 noon, Lecture:—Mr. Souttar: Surgical Anatomy of the Abdomen. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. Singer: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.—2.15 P.M., Mr. W. Turner: Surgery. 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir Dyce Duckworth: Medicine.

TUESDAY.—Out-patient Demonstrations:—10 A.M., Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.—2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Rankin: Medicine. 4.15 P.M., Mr. R. Lake: Ear and Throat.

WEDNESDAY.—Out-patient Demonstrations: 10 A.M., Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. B. Bickerton: Eye.—2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P.M., Mr. Cargill: Eye Clinique. 4.30 P.M., Mr. C. C. Choyce: Surgery.

THURSDAY.—Out-patient Demonstrations:—10 A.M., Dr. Singer: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.—2 P.M., Mr. R. Carling or Mr. W. Turner: Operations. Dr. A. Davies: Pathological Demonstration. 3.15 P.M., Dr. R. Wells: Medicine.

FRIDAY.—Out-patient Demonstrations:—10 A.M., Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.—2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Sir John Rose Bradford: Medicine. 3.15 P.M., Mr. L. McGavin: Surgery.

SATURDAY.—Out-patient Demonstrations: 10 A.M., Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. B. Bickerton: Eye.—10 A.M., Col. Barry: Radiography.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. E. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. D. Gillies). 3 P.M., Medical In-patients (Dr. R. M. Leslie).

TUESDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Gynæcological (Dr. A. B. Giles). X Rays and Electrical Methods. 3 P.M., Demonstration of Selected Cases of Children's Diseases (Dr. T. R. Whipham). 3.30 P.M., Medical In-patient (Dr. A. J. Whiting). 4.15 P.M., Lecture:—Mr. H. W. Carson: Acute Abdominal Conditions in Children.

WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 3 P.M., Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan). 5.30 P.M., Eye Operations (Mr. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. B. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson); X Rays and Electrical Methods (Dr. Metcalfe).

FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. E. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. G. P. Chappel); Clinical Pathology and Pathological Demonstration.

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON), Clinical Theatre, London Hospital, Mile End-road, E.

Course of Lectures on the Neuroses and Psychoses of Children:—

MONDAY.—4.15 P.M., Dr. F. Warner: Study of the Mental Status of a Child.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.

THURSDAY.—5.15 P.M., Clinical Lecture.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY AND FRIDAY.—3.30 P.M., Clinical Lectures:—Dr. J. Taylor: Clinical Cases.

QUEEN'S HOSPITAL FOR CHILDREN, Board Room of the Hospital, Hackney-road, N.E.

WEDNESDAY.—4 P.M., Post-Graduate Lecture: Dr. E. Bellingham-Smith: Epilepsy (illustrated by cases).

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.

TUESDAY.—4 P.M., Dr. J. L. Bunch: Some Common Skin Diseases.

THURSDAY.—6 P.M., Dr. M. Dockrell: Coccus Diseases: I., Impetigo Contagiosa; II., Furuncle; III., Carbuncle; IV., Coccogenic Sycosis.

ROYAL INSTITUTE OF PUBLIC HEALTH, Lecture Room of the Institute, 37, Russell-square, W.C.

Course of Instruction for Tuberculosis Officers, School Medical Officers, Medical Practitioners, &c.:—

FRIDAY.—5 P.M., The Diagnosis and Treatment of Tuberculosis, &c.—Lecture III.:—Dr. A. C. Inman: The Behaviour of the Blood and Tissues in Response to Infection by the Tubercle Bacilli.

MANCHESTER HOSPITALS POST-GRADUATE CLINIC.

MONDAY.—MANCHESTER CHILDREN'S HOSPITAL, Gartside-street.—4.30 P.M., Mr. H. H. Rayner: Practical Points in Performance of Some Common Minor Operations.

TUESDAY.—SALFORD ROYAL HOSPITAL—4.30 P.M., Dr. C. C. Heywood: Demonstration of Medical Cases in the Wards.

WEDNESDAY.—ROYAL INFIRMARY—4.30 P.M., Mr. P. R. Wrigley: Demonstration of Surgical Cases.

THURSDAY.—ANCOATS HOSPITAL—4.30 P.M., Exhibition of Medical and Surgical Cases.

FRIDAY.—ROYAL EYE HOSPITAL—4.30 P.M., Dr. T. M. Bride: Shadow and Vessel Test.

ROTUNDA HOSPITAL POST-GRADUATE COURSES, Dublin.

MONDAY.—10 A.M., Obstetrical Lecture: Antepartum Hæmorrhage (continued). 11 A.M. Examination of Patients and Minor Operations.
TUESDAY.—10 A.M., Major Operations.
WEDNESDAY.—10 A.M., Obstetrical Lecture: Antepartum Hæmorrhage (continued). 11 A.M., Examination of Patients and Minor Operations.
THURSDAY.—10 A.M., Major Operations.
FRIDAY.—10 A.M., Gynæcological Lecture: Displacements of the Uterus (continued). 11 A.M., Examination of Patients and Minor Operations.

For further particulars of the above Lectures, &c., see Advertisement Pages.

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MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II. of 1913 were given in THE LANCET of Dec. 27th, 1913.

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THE following Congresses, Conferences, and Exhibitions are announced. In 1914:—

Feb. 7th–11th (Glasgow).—Northern Nursing and Midwifery Conference.
„ 9th–14th (Auckland).—Australasian Medical Congress.
April 13th–16th (New York).—Fourth Congress of the International Surgical Society. (President: Prof. Depage. Bruxelles.
April 14th–18th (New York).—Fourth Congress of the International Surgical Society.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Jan. 21st, 1914.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Jan. 15	30·28	N.E.	...	41	40	33	32	33	Fine
„ 16	30·15	N.E.	0·03	49	42	33	37	38	Overcast
„ 17	29·83	N.E.	...	48	42	38	38	39	Overcast
„ 18	30·02	N.E.	...	48	42	37	36	38	Overcast
„ 19	30·06	E.	...	39	36	34	34	35	Overcast
„ 20	30·01	N.E.	...	39	36	33	31	33	Overcast
„ 21	30·12	N.E.	...	39	37	33	33	36	Overcast

The following journals, magazines, &c., have been received:—International Journal of Surgery, British Dental Journal, Symons's Meteorological Magazine, Duodecim, La Policlinique, La Clinique Ophthalmologique, Surgery, Gynecology, and Obstetrics, American Journal of Gastro-enterology, American Medicine, Quarterly of the Federation of State Medical Boards of the United States, Theraplst, Revue de Chirurgie, Revue de Médecine, Tropical Diseases Bulletin, Annales de l'Institut Pasteur, Guy's Hospital Gazette, Canadian Practitioner and Review, Cleveland Medical Journal.

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